

User and assembly manual

AUGERMATIC

Code No. 99 97 0742

Edition 11/2003

M 0742 GB

Thank you very much for your confidence !

You are now the proud owner of a new **Big Dutchman**

AUGERMATIC

We are convinced that you will be extremely satisfied with it.



EC Declaration of Conformity

We declare that the design and model of the machine described above, marketed by ourselves, fully complies with the health and safety requirements of the relevant EC Directive.

Guarantee Declaration

This machine is guaranteed in accordance with the **Big Dutchman** International GmbH General Conditions of Sale for customers in Germany and the **Big Dutchman** International GmbH International Conditions of Sale for customers not resident in Germany.

Note

To ensure that your new equipment will always function properly and efficiently and to ensure your personal safety, would you be kind enough to:

Study this manual thoroughly and take particular note of the warning and safety instructions before starting up the machine for the first time.

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2 Basic safety instructions

	Please take care of these instructions and always keep them in the same place for quick reference. All persons operating, cleaning or servicing the system have to be familiar with the contents of these instructions. If these instructions should get damaged or lost, Big Dutchman will be glad to provide you with a new copy.
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These assembly and operating instructions contain all important notes for safe operation of the system.

2.1 Obligations and liability

Take into consideration the assembling and operating instructions:

A basic condition for safe operation and trouble-free handling of this system is the knowledge of the basic safety instructions and regulations.

These assembling and operating instructions, particularly the safety instructions have to be followed by everyone working with this system. Moreover, the regulations and instructions for the prevention of accidents valid at the respective place of use have to be taken into consideration.

2.1.1 Dangers when operating the system

The **BIG DUTCHMAN AUGERMATIC** system has been constructed according to the state of the art and all acknowledged regulations regarding technical safety. Upon operation, however, dangers to life and limb of the user or third persons or impairments of the system or other material property are still possible. The system may only be applied

- for due use and
- in an impeccable state from the safety point of view.

Immediately remove any troubles possibly leading to safety dangers.

2.1.2 Warranty and liability

Warranty and liability claims regarding persons or material damage are excluded if they go back to one or several of the following causes:

- no due use of the installation,
- inappropriate mounting, putting into operation, operating and maintaining of the system,
- operating the system with defective safety equipment or not duly fixed or not functioning safety or protective devices,
- non-observance of these operating instructions regarding transport, stock keeping, mounting, putting into operation, operation, maintenance and upgrading of the system,
- unauthorised constructional modifications to the system,
- unauthorised modification of the AUGERMATIC (e.g. drives: power and speed)
- the manufacturer is not responsible for any damages of the machine or the software resulting from unauthorised changes done by the user,
- faulty surveillance of system parts subject to wear and tear,
- inappropriate repairs,
- in the event of a disaster by foreign matters or force majeure.

2.2 Safety symbols

Upon reading these assembly and operating instructions you will come across the following symbols:

	WARNING AGAINST GENERAL DANGERS
	WARNING AGAINST DANGEROUS ELECTRIC TENSION

2.3 Special safety instructions

The following signs are used for certain dangers in these assembly and operating instructions:

	Danger	This symbol indicates an imminent danger for life and health of people. Non-observance of these instructions can cause severe health problems up to perilous injuries.
	Caution	This symbol indicates a possible danger for life and health of people or can lead to material damage. Non-observance of these instructions can cause severe health problems or lead to severe material damage.
	Note	This sign indicates notes leading to an effective, economic and environmentally-conscious handling of the installation. Non-observance of these instructions can cause troubles with the system or in the environment.

2.4 Warnings and safety instructions

On your installations you will find the following pictographs. They indicate **technically remaining dangers** when handling the system and give information on how to avoid these dangers.

These signs always have to be visible and must not be damaged. If they are soiled by dust, manure, feed remains, oil or grease, clean them by means of a water-detergent mixture.

If a sign is fixed at a part to be replaced, ensure that it will be fixed at the new part as well.

Except for the pictographs listed here, other signs can also be fixed at the machine or system. Follow the instructions indicated on them.

2.4.1 Information and signification of pictographs

The warning signs fixed to the machine or system are illustrated by pictographs.

Persons in charge of the operation and maintenance of the system or machine have to be familiar with the symbols on the pictographs. Representation and meaning are given in the following.

Pictograph ISO 11684	Meaning:
	General danger ! Installation automatically starts working. Before starting repair, maintenance or cleaning work, put main switch to "OFF"
	Danger due to rotating machine parts ! Close protective devices before taking the system into operation.
	Danger due to operating auger, chain or cable discs ! Never reach into or climb into a feed hopper while the motor is running.

2.5 Designated use

The **BIG DUTCHMAN AUGERMATIC** system may only be used according to its designated use.

The **BIG DUTCHMAN AUGERMATIC** with its different feed pans is a special **pan feeding system** meeting the requirements of both, day-old chicks as well as grown-up broilers, layers, ducks or turkeys.

Every other use is considered as non-designated use. The manufacturer does not accept liability for damages resulting from other uses, the user alone has to bear the risk.

The designated use also includes the exact following of the operation, maintenance and repair conditions as prescribed by the manufacturer.

All established safety precautions and other generally accepted safety regulations and medical references have to be followed.

Please check safety and function control devices to ensure safe and accurate operation:

- before putting into operation
- at adequate time intervals
- after modifications or repairs

Follow the directions of the electric and water supply company.

2.6 Notes for use

- We reserve the right to modify the construction and technical data for reasons of further development.
- Therefore, no claims can be derived from the information, pictures and drawings and the descriptions. Subject to correction !
- Get the information on mounting, adjusting, operating and maintaining **before taking the system into operation**.
- Besides the operating instructions and the safety precautions valid in the country of use, please also consider the generally acknowledged technical regulations (safe and appropriate working according to UVV, VBG, VDE etc.).
- In addition to these operating instructions, please also consider the instructions of the producers of components (e.g. sensors).
- There might be danger involved in the use of the system if it is used inappropriately by non-trained personnel or for a non-designated use.



Operation of the system may only be carried out by persons who are allowed to do so due to their training or qualification. Moreover, these persons have to be authorised by the owner.

2.7 Electrical installations

	Electrical installations may only be carried out by technically trained personnel and under consideration of the regulations applied generally and locally ! If the control equipment is open, dangerous electric tensions are bare. Please be aware of the danger and keep workers of other professions away from the dangerous spot ! During operation, all control units as well as switch gears and controllers have to be closed or installed in the switch box. Fuses may only be replaced, never repaired or bypassed. Only use the fuses mentioned in the electric circuit diagram. Check with a 2-pole voltage tester whether the devices are currentless.
	To prevent damages due to ammonia vapours (NH₃), do not install control units directly in the house but in the service room.
	Work on the electric components/structural groups may only be carried out according to the electro-technical regulations (e.g. EN 60204, DIN VDE 0100/0113/0160). The farmer or owner further has to ensure that the electric systems and equipment are operated and maintained according to the electro-technical regulations. For the respective connections please see the enclosed connecting plan of the system parts delivered.

All kind of work going beyond the maintenance scope of the equipment are to be carried out only by a specialist.

Carry out all kinds of work at the device with disconnected electric power supply cable.

Check the electrical wiring and cables for recognisable damage before putting the device into operation.

Replace damaged wiring and cables, before that, do not take the device into operation again.

Let damaged or broken plugs be replaced by an electrician.

Do not pull the plug from a socket at the flexible cable.

Covering electrical motors can cause high temperatures so that fire results and the working means can break down.

2.8 Assembly and maintenance



Before working on the electrical installation always disconnect power supply!

Assemblies and repairs may only be carried out by persons who are competent and can guarantee proper assembly because of special training or their knowledge and practical experiences with the unit.

Repair, maintenance and cleaning operations as well as the removal of functional disorders may generally only be carried out when the drive is turned off and the motor is in a standstill.

Only work with appropriate tools; in case of possible danger to hands, use protective gloves.

After any repair works, the user has to check the proper functioning of the unit or machine. He may only take the device into operation, when all protective systems have been put into place again.

Spare parts have at least to correspond to the technical requirements fixed by the producer of the device. This requirement can be met for example by original spare parts.

2.9 Employing outside personnel

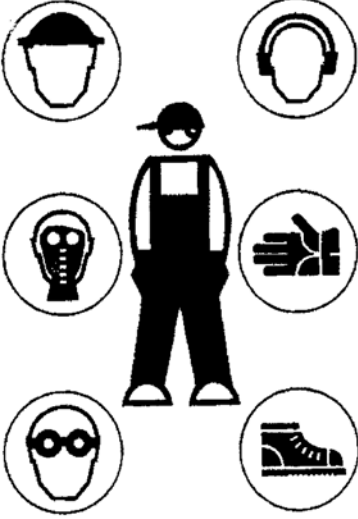


As the supervisor, you are responsible for the safety of outside personnel !

Maintenance and repair work is frequently carried out by non-operating personnel which is not familiar with the special circumstances and the inherent dangers.

- Inform these people in detail on the dangers of their area of work.
- Check their method of working and intervene as soon as possible.

2.10 Clothing and devices for personal safety

	When operating, maintaining and cleaning the system, avoid wearing wide, fluttering clothes, rings and watches. Make sure, long hair is tied back when approaching moving system parts. Hair can get caught in the parts in motion and thus result in severe injuries. If required, wear a safety helmet, safety glasses, protective gloves, work shoes, head screen and hearing protectors upon operating, maintaining and cleaning the system.
---	---

2.11 Ordering spare parts

	Operational safety is the prime necessity! For you own safety only use original Big Dutchman spare parts. For foreign products that have not been released or recommended or for modifications carried out (e.g. software, control units) we cannot judge whether there is a safety risk in connection with the Big Dutchman systems.
	You can find the exact description of the parts for ordering spare parts by means of the pos. no. in the spare parts list.

Indicate the following for ordering spare parts:

- Code No. and description of the spare part or
Pos. No. with description and manual no. in case of parts that are not encoded
- Invoice No. of original invoice
- Current supply, e.g. 220/380V - 3 Ph. - 50 Hz.

2.12 Disorders due to power failure

We recommend the installation of warning systems for a better control of your production units. By this, you protect the birds and thus your own economical health. In case of power failure, an emergency power-generating set should automatically supply the system with power.

Emergency power units with universal transmission for connection to a tractor are also suitable. For further information please contact your property insurance.

2.13 First aid

For the case of an accident, unless specified otherwise, a first-aid kit must always be available at the place of work. Material taken out and used is to be replaced immediately.

If you need help, describe the accident as follows:

- where it happened
- what happened
- the number of persons injured
- what danger of injury
- who is passing the message ! (your data)

2.14 Waste disposal

After finishing the assembly or repair of this installation, dispose of the packing material and remains which do not need to be further used according to the legal provisions for recycling.

After putting out of action of the installation, dispose of the component parts according to the legal provisions for recycling.

2.15 Copyright

This manual is subject to copyright. The information and drawings included in this manual shall not be copied without the manufacturer's consent, nor shall it be used for anything other than the designated use. It shall also not be given to third parties.

The contents of this manual can be altered without prior notice.

If you find mistakes or unclear information in this manual, please do not hesitate to let us know.

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3 Special safety instructions

3.1 Personal safety instructions

These safety instructions are intended to make you familiar with all information regarding the system that are important for your safety and that of the system. Maintenance may only be carried out by specially trained and briefed users. Keep with the safety instructions in this manual.

3.2 Clothing and procedures for personal safety

3.2.1 Clothing and footwear

- Wide, fluttering clothes increase the risk of an accident
- Wide pieces of clothing, ties, scarves etc. can get caught in the moving or rotating system parts.
- High heels are a safety risk.
- If you stumble, you can knock against sharp-edged, moving or rotating system parts and get severely injured.

	Secure wide, fluttering clothes or take them off! When working at or on the system, only wear slip-free footwear and safety shoes when replacing heavy system parts!
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3.2.2 Jewellery

- Loose or large jewellery increases the risk of an accident
- The large or loose parts of jewellery can get caught in components of the installation.

	Take off all jewellery, particularly necklaces, bracelets and rings!
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3.2.3 Hair

- Long hair increases the risk of an accident.
- Long hair can get caught in moving or rotating system parts.



Secure long hair by tying it back or wearing a bandanna or cap!

3.3 System safety instructions

The different areas of the **Big Dutchman Augermatic** system are characterised by different types of construction.

There are several system parts that run out, rotate or slide that can increase the risk of an accident when you are unaware of the type of construction.

Therefore:

It is essential to take into consideration the following instructions during maintenance, repair or operation of the system!

3.3.1 Entire system

- Parts lying about on the system or around it can cause you to stumble or fall so that you can get injured by the constructional parts of the system.
- Ignorance of the constructional structure of the system can lead to injuries.
- Parts lying about in / on the components (e.g. in the feed trough, on the egg belt, in the nests etc.) can severely damage the system.



Caution

After repair or maintenance work, never place any objects (e.g. spare parts, replaced parts, tools, cleaning implements etc.) in the accessible areas of the system or around it! Make sure that all loose or replaced parts have been removed from the system components before the system is taken into operation again!

Make yourself familiar with the construction of the system in sufficient light! If this is not possible at site, get all available information on the remaining dangers in connection with this system!

When working under the installation, always wear a safety helmet!

Before carrying out repair or maintenance work, disconnect power supply and indicate this by a sign fixed to the main switch.

3.3.2 Individual components

3.3.2.1 AM drive and Feed hopper

- Rotating or sliding parts of the feeding system can lead to injuries!

 Warning 	Always disconnect power supply before working on the AM drive and the feed hopper. Indicate this by a sign fixed to the main switch. The AM drive can start automatically if controlled by a sensor Never reach for the spiral connected to the drive shaft, when the drive console is open. Always keep the protective cover closed! Never touch rotating or powered system parts (drive shaft, spiral)! Never reach into opened feed hopper when drive is switched on!
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3.3.2.2 Water supply

- Leaky hoses, seals or nipple drinkers can cause water damage in the house and destroy the installation and electrical systems.
- Danger of electric shock
- Danger of short circuits

 Warning	Immediately disconnect main water supply! Disconnect main power supply and then enter the house compartment! If you have to carry out maintenance, cleaning or repair work get the information beforehand, where the main electric switch is located. Put main switch to "Off" and indicate maintenance or repair work by a sign fixed to the main switch!
---	--

3.3.2.3 Electrical components

 Warning 	High electric tension ! If touching live parts, severe injuries due to electric shocks are possible! During repair or maintenance work, live elements can be bare! Never touch bare electrical components. Staff members must not use machines with bare electrical components.
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3.3.2.4 Ventilation system

- Rotating fans can lead to severe injuries.
- Fans can start due to their automatic control units.

 Warning 	Never reach through the protective grills or blade flaps into a fan, even if it is not in operation! Before carrying out repair or maintenance work, disconnect power supply and indicate this by a sign fixed to the main switch.
--	---

Space for notes:

4 Introduction

4.1 Survey of Big-Pan and Multi-Pan feed- and control pans

Parts Lists (assemblies)		Big-Pan						Multi-Pan								
		A			B			C			D			E		
		11-31-3501	11-31-3530	11-31-3552	11-31-3701	11-31-3730	11-31-3732	11-31-3570	11-31-3560	11-31-3573	11-31-3555	11-31-3557	11-31-3569	11-31-3565	11-31-3567	11-31-3569
Field of Application		Feedpan cpl BP330 wo/shut-off			Feedpan cpl BP330-Plus wo/shut-off			Feedpan cpl BP330 without shut-off with MP-dish			Feedpan cpl BP330 with shut-off and BP-dish			Feedpan cpl BP330-Plus with shut-off with RPM-dish		
		Feedpan cpl BP330 with shut-off			Feedpan cpl BP330-Plus with shut-off			Feedpan cpl BP330 with shut-off and MP-dish			Control pan cpl MP330 with shut-off and BP-dish incl sensor AFS			Control pan cpl MP330-Plus with RPM-dish incl sensor AFS		
		Control pan cpl. BP330 incl sensor AFS			Control pan cpl BP330-Plus incl sensor AFS			Control pan cpl MP330 incl sensor AFS			Feed-saving collar MP330			Feed-saving collar MP330		
broiler growing*		✓			✓				✓		✓			✓		
turkey rearing*								✓			(✓)			✓		
pre-finishing and final growing period turkeys*											✓			✓		
duck rearing*					✓			✓								
pre-finishing and final growing period ducks*											✓			✓		
pullet rearing*		✓			✓											
layers*		✓			✓											
other (goose, pheasant, guinea fow, etc.)*											✓			✓		
feeding:	ad libitum	✓						✓			✓					
	let emptying at times only with: 11-31-3568 volume reducing insert white	✓						✓			✓					
	controlled				✓									✓		
	in rations				✓									✓		
	restrictively?															
range of weight:	0 – 2,5kg							✓			✓			✓		
	0 – 3,5kg	✓			✓											
	2 - 7kg, only with: 11-31-3569 feed-saving collar										✓			✓		
	7,0 - 12kg, only with: 11-31-3569 feed-saving collar										✓			✓		
height feed pan (distance between floor and upper edge pan edge) (mm)		76	76	76	61	61	61	46	46	46	71	71	127	56	56	112
height feed tube (distance between floor and lower edge tube) (mm)		206	218	206	191	203	191	206	218	206	243	243	243	228	228	228

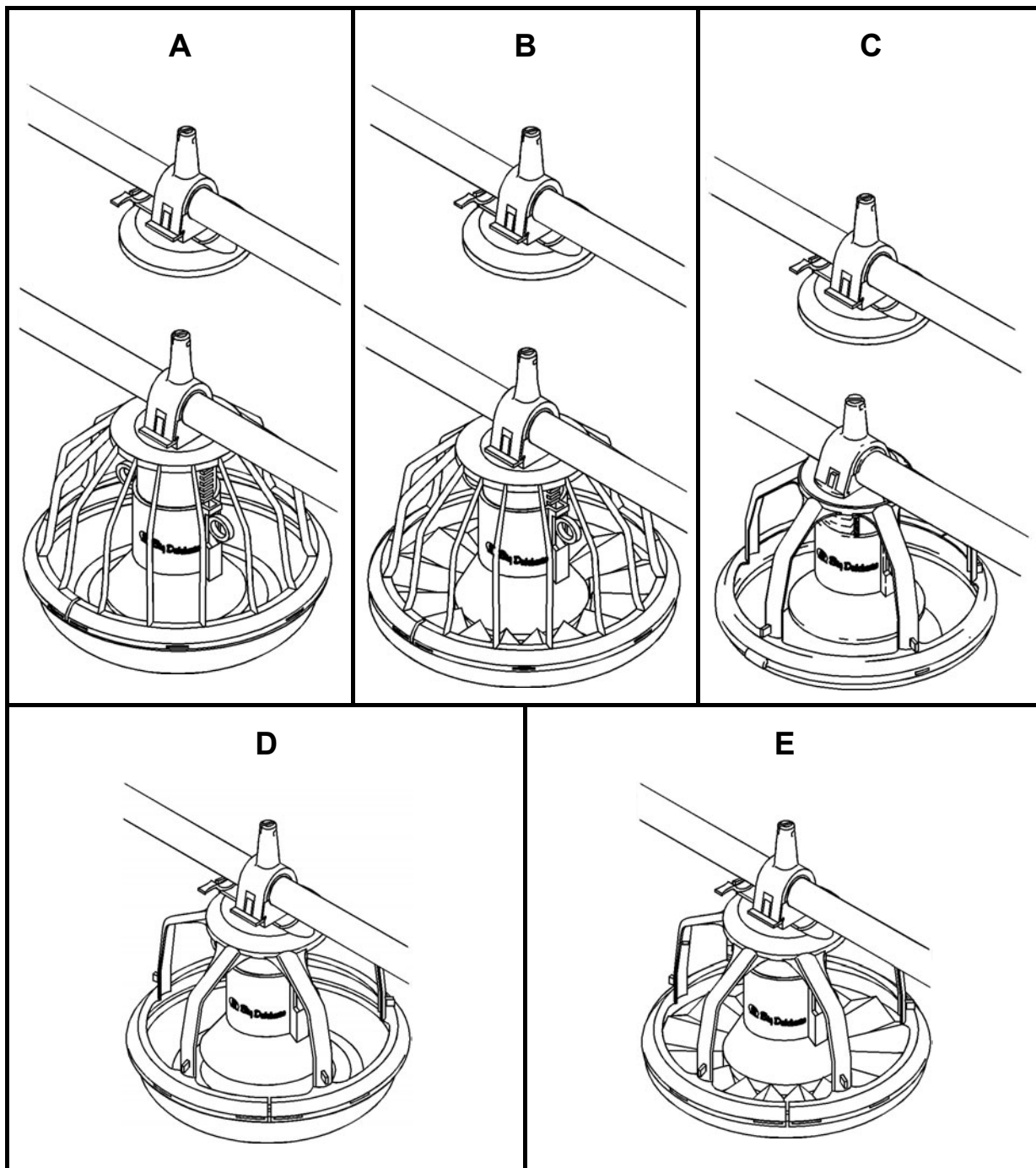
* consider range of weight,

✓ suitable,

(✓) partially suitable



4.1.1 Assemblies of Big Pan and Multi Pan

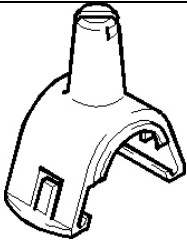
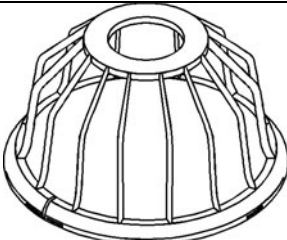
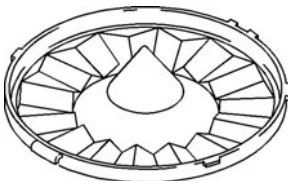
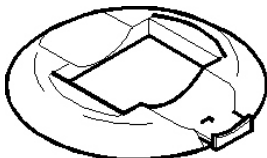
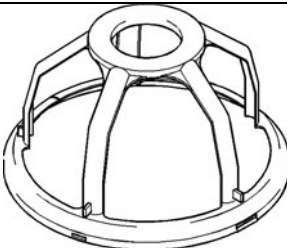
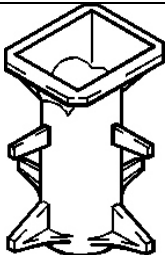
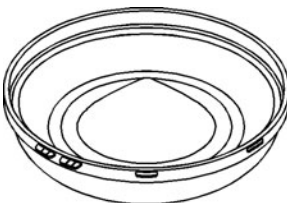
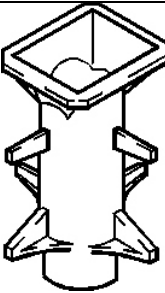
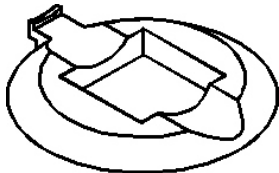
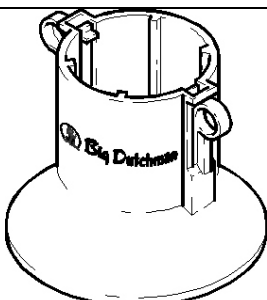
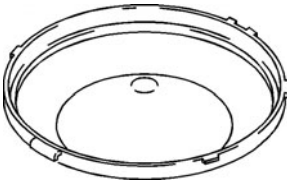
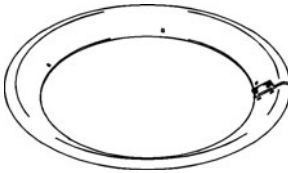


4.1.2 Single components of Big Pan and Multi Pan

Pos: Single Components Parts Lists (assemblies)			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20
			Tube adapter for BP/MP330	Cylinder inner for "BP/MP330 wo/shut-off"	Cylinder inner for "BP/MP330 with shut-off"	Guide ring for shut-off BP/MP330	Cylinder inner for "MP/MalePan with shut-off"	Guide ring for shut-off MP/MalePan	Slide shut-off BP/MP330	Cylinder outer for "BP/MP/RPM330/MalePan"	Grille BP330	Grille MP330	Dish BP330	Dish MP330	Dish RPP330	Volume reducing insert orange BP330-Plus	Volume reducing insert white MP/RPM330	Feed-saving collar MP330	Cylinder inner for "BP/MP330 wo/shut-off" f/AFS	Cylinder inner for "BP/MP330 with shut-off" f/AFS	Sensor AFS-01-60sec 90-250V	Guide ring for shut-off f/Sensor AFS
Big - Pan	A	11-31-3501	Feedpan cpl BP330 wo/shut-off	•	•					•	•		•				◆					
		11-31-3530	Feedpan cpl BP330 with shut-off	•		•	•		•	•	•		•				◆					
		11-31-3552	Control pan cpl BP330 incl sensor AFS	•						•	•		•						•		•	
	B	11-31-3701	Feedpan cpl BP330-Plus wo/shut-off	•	•					•	•				•	•						
		11-31-3730	Feedpan cpl BP330-Plus with shut-off	•		•	•		•	•	•				•	•						
		11-31-3732	Control pan cpl BP330-Plus incl sensor AFS	•						•	•				•				•		•	
Multi - Pan	C	11-31-3570	Feedpan cpl MP330 without shut-off with MP-dish	•	•					•		•		•			◆					
		11-31-3560	Feedpan cpl MP330 with shut-off and MP-dish	•		•	•		•	•		•		•			◆					
		11-31-3573	Control pan cpl MP330 incl sensor AFS	•						•		•		•					•		•	
	D	11-31-3555	Feedpan cpl MP330 with shut-off and BP-dish	•				•	•	•	•	•	•				◆	◆				
		11-31-3557	Control pan cpl MP330 with BP-dish	•					•	•		•	•					◆		•	•	•
	E	11-31-3565	Feedpan cpl MP330-plus with shut-off with RPM-dish	•				•	•	•	•	•			•		•	◆				
		11-31-3567	Control pan cpl MP330-plus with RPM-dish incl sensor AFS	•					•	•		•			•			◆		•	•	•

• = standard, ◆ = option

Single components of Big Pan and Multi Pan

Pos. 1 11-31-3515	Pos. 5 83-00-0131	Pos. 9 11-31-3512	Pos. 13 11-31-3711
			
Pos. 2 11-31-3513	Pos. 6 83-00-0130	Pos. 10 11-31-3562	Pos. 14 11-31-3518
			
Pos. 3 11-31-3533	Pos. 7 11-31-3536	Pos. 11 11-31-3511	Pos. 15 11-31-3568
			
Pos. 4 11-31-3537	Pos. 8 11-31-3514	Pos. 12 11-31-3561	Pos. 16 11-31-3569
			

4.2 Survey of Fluxx feed- and control pans

Parts Lists (assemblies)		Fluxx							
		with Big Pan dish				with RPM dish			
		Feedpan cpl Fluxx 330-5 with BP dish	Feedpan cpl Fluxx 330-14 with BP dish	Control pan Fluxx 330-5 with BP dish incl sensor AFS	Control pan Fluxx 330-14 with BP dish incl sensor AFS	Feedpan cpl Fluxx 330-5 plus with RPM dish	Feedpan cpl Fluxx 330-14 plus with RPM dish	Control pan Fluxx 330-5 with RPM dish incl sensor AFS	Control pan Fluxx 330-14 with RPM dish incl sensor AFS
Field of Application		11-31-4750	11-31-4700	11-31-4759	11-31-4709	11-31-4710	11-31-4760	11-31-4769	11-31-4719
broiler growing*			✓					✓	
turkey rearing*									
pre-finishing and final growing period turkeys*									
duck rearing*									
pre-finishing and final growing period ducks*									
pullet rearing*			✓					✓	
layers*			✓					✓	
other (goose, pheasant, guinea fow, etc.)*									
feeding:	ad libitum		✓						
	let emptying at times only with: 11-31-3568 volume reducing insert white								
	controlled		✓					✓	
	in rations							✓	
	restrictively								
range of weight:	0 – 2,5kg								
	0 – 3,5kg		✓					✓	
height feed pan (distance between floor and upper edge pan edge) (mm)			76				76		
height feed tube in floodposition 1 (distance between floor and lower edge tube) (mm)			206				206		
height feed tube in floodposition 7 (distance between floor and lower edge tube) (mm)			234				234		

* consider range of weight,

✓ suitable,

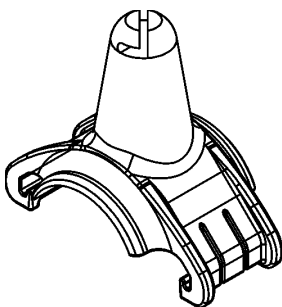
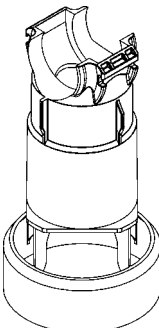
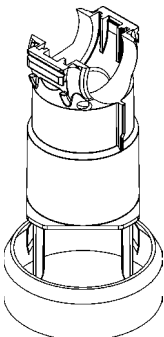
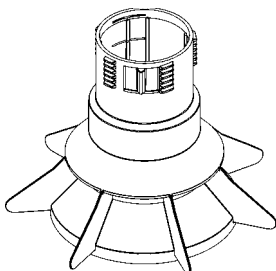
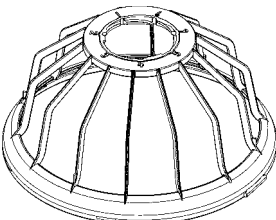
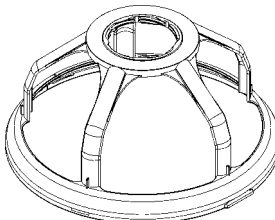
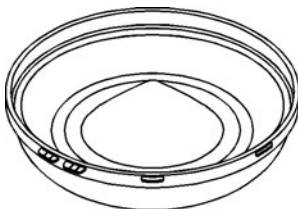
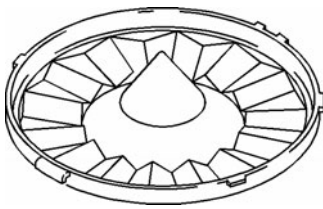
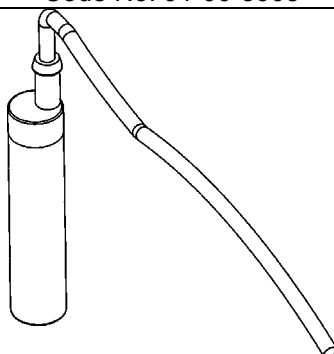
(✓) partially suitable

4.2.1 Single components of Fluxx feed- and control pans

Single components Parts lists (assemblies)			Pos										
			1	2	3	4	5	6	7	8	9	10	11
			83-00-8718	83-00-8716	83-00-8779	83-00-8717	83-00-8545	83-00-8530	11-31-3511	11-31-3711	91-00-3905	11-31-4106	99-50-3775
with Big – Pan dish	11-31-4750	Feedpan cpl Fluxx 330-5 with BP dish	•	•		•		•	•				
	11-31-4700	Feedpan cpl Fluxx 330-14 with BP dish	•	•		•	•		•				
	11-31-4759	Control pan Fluxx 330-5 with BP dish incl sensor AFS	•		•	•		•	•		•	•	•
	11-31-4709	Control pan Fluxx 330-14 with BP dish incl sensor AFS	•		•	•	•		•		•	•	•
with RPM dish	11-31-4710	Feedpan cpl Fluxx 330-5 plus with RPM dish	•	•		•		•		•			
	11-31-4760	Feedpan cpl Fluxx 330-14 plus with RPM dish	•	•		•	•			•			
	11-31-4769	Control pan Fluxx 330-5 with RPM dish incl sensor AFS	•		•	•		•		•	•	•	•
	11-31-4719	Control pan Fluxx 330-14 with RPM dish incl sensor AFS	•		•	•	•			•	•	•	•

• = Standard

Single components Fluxx feed and control pans

Pos. 1 Code No: 83-00-8718 	Pos. 2 Code No: 83-00-8716 	Pos. 3 Code No: 83-00-8779 
Pos. 4 Code No: 83-00-8717 	Pos. 5 Code No: 83-00-8545 	Pos. 6 Code No: 83-00-8530 
Pos. 7 Code No: 11-31-3511 	Pos. 8 Code No: 11-31-3711 	Pos. 9 Code No: 91-00-3905 

Space for notes:

4.3 Assembling a feed line

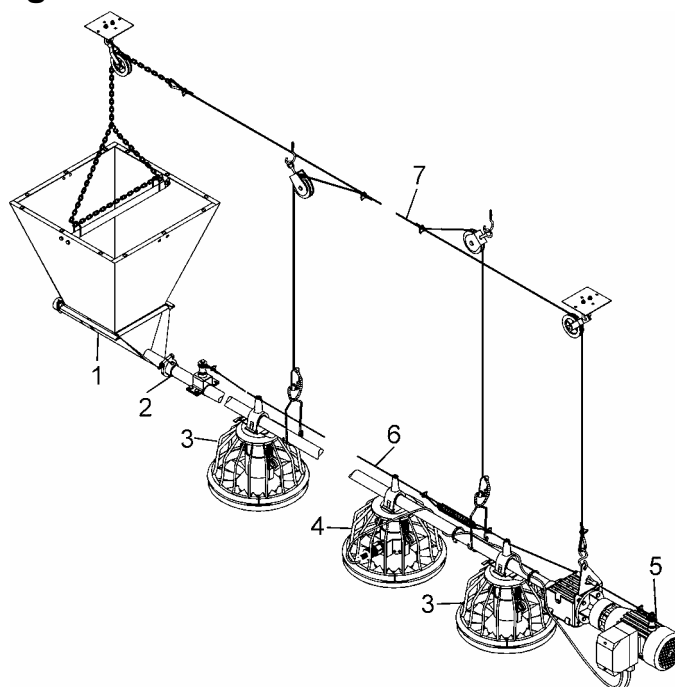


Fig 741,01 Feed line with feed hopper 1-line

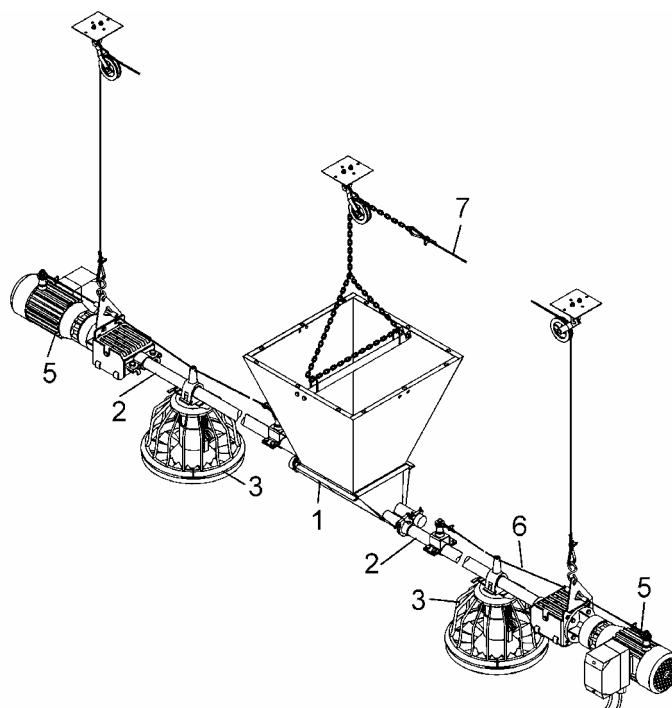


Fig 741,02 Feed line with feed hopper 2-lines central

- | | |
|------------------------------|-------------------|
| 1 Feed hopper with extension | 5 AM drive |
| 2 Tube with auger | 6 Anti-roost wire |
| 3 Feed pan | 7 Suspension |
| 4 Feed pan with sensor | |

4.4 System description

The **BIG DUTCHMAN AUGERMATIC** with its different feed pans is a special pan feeding system meeting the requirements of day-old chicks as well as grown-up broilers, layers, ducks or turkeys.

Since the birds, on the one hand, have the genetic predisposition to realise enormous weight gains while, on the other hand, the production of brooder eggs is an important factor as well, special demands are made regarding the feeding procedure.

4.5 Everyday operation

During daily operation, the quality of a feeding system becomes obvious. Daily work in the house should be restricted to the most important and most necessary work. Feeding should only be a "marginal" occupation to keep control times for the feeding system as short as possible.

- Rapid height adjustment of the feeding system must be possible !

Optimum height adjustment of the feed pans is extremely important for the birds. A too low adjustment of the feed pans leads to increased feed losses and feed soiling. If feed pans are adjusted too high, birds are impeded during feed consumption which can lead to deformations of the skeleton.

For the height of the feed pans, the following rule-of-thumb generally applies:
Height of the birds' backs = height of the pan rim.

4.6 Cleaning, maintenance and care

- For cleaning, the feeding system has to be brought into an optimum working position.
For fast and efficient cleaning with a high-pressure cleaner, the feeding system has to be brought to an optimum working height by means of a winch.
- The feed pans should have a cleaning position.

When the feed pans are in their cleaning position, make sure that the holes in the Augermatic tubes are closed so that water cannot intrude.

The feed pans and the entire feeding system is so stable that cleaning with a high-pressure cleaner is possible without any damages.

- The expenditure for maintenance and care of the feeding system has to be as small as possible.

Drives are equipped with good, solid gear motors which hardly need any maintenance. A possible oil change has to be carried out according to the producers instructions (see sticker on gear motor).

Further measures of maintenance and care except for cleaning have to be restricted to some checks as the adjustment of the control sensors, practicability of the drive motors and the winch system.

4.7 System layout

Keeping to and taking into consideration of the layout parameters ensures optimum adaptation of the feeding system to the respective building. This will avoid to the biggest possible extent a short supply of feed to certain areas of the house.

- The maximum length of a feed line depends on the type of installation.
- The distance between two feed lines is max. 6 meters.

The optimum distance for the birds is approx. 2.5 m on each side of the feed line.

- number of birds per feed pan.

The number of birds/feed pan depends on the management system and on the birds' final weight.

5 General planning instructions

	Calculation of the respective feed pans: Number of tubes x number of holes/tube less one control pan per line.
---	--

Passage height with raised feeding system

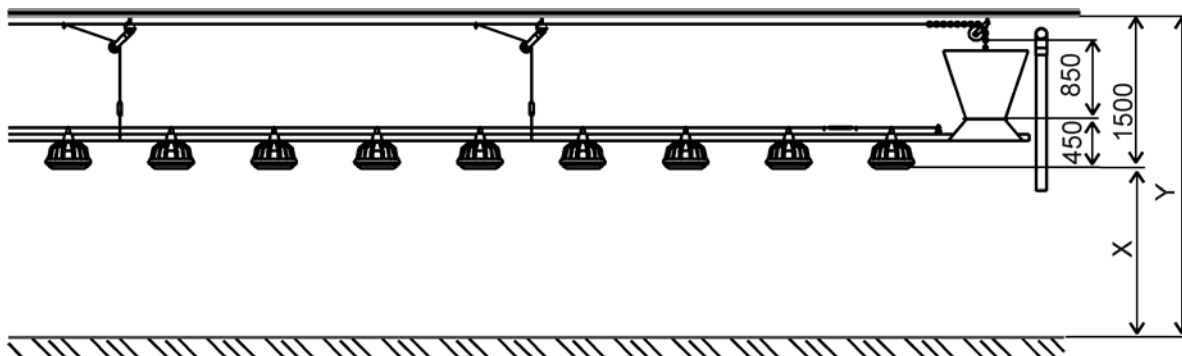


Fig. 741.03

All dimensions in mm

The dimension 1500 is an approximate value and depends on the hook length.

X = passage height (ceiling height – 1500 mm)

Y = ceiling height

5.1 Planning instructions for AUGERMATIC Big Pan 330/Plus

For broilers, pullets and layers.

5.1.1 Planning aids for evaluating the total lifting load for suspended lines

Basic unit tube 2-holes with feed pans + feed:	13.2 kg/pc
Basic unit tube 3-holes with feed pans + feed:	15.9 kg/pc
Basic unit tube 4-holes with feed pans + feed:	18.3 kg/pc
Feed hopper + feed:	90.0 kg/line
Drive	20.0 kg/line

If halving of loads is applied, only half of the calculated total weight has to be considered for selecting the cable winch.

5.1.2 Planning aid for evaluating the number of lines and pans**11 31 3501 Feed pan cpl. BP330 without shut-off****11 31 3530 Feed pan cpl. BP330 with shut-off**

- for ad-libitum feeding of broilers

weight range: 0-3.5 kg

Number of birds per pan: $(125 : \text{desired final weight} + 20)$

e.g.: $125 : 1.25 \text{ kg/bird} + 20 = 120 \text{ birds/pan}$

- for rationed feeding of pullets and layers

weight range: 1.3-1.5 kg Number of birds per pan: 45-60 pullets

weight range: 1.8-2.2 kg

Number of birds per pan: 30-45 layers

Number of feed lines: 1 line per 4-6 m house width.

11 31 3701 Feed pan cpl. BP330-Plus without shut-off**11 31 3730 Feed pan cpl. BP330-Plus with shut-off**

- for ad-libitum feeding of broilers or rationed feeding of pullets and layers

weight range: 0-3.5 kg

Number of birds per pan: $(125 : \text{desired final weight} + 20)$

e.g.: $125 : 1.25 \text{ kg/bird} + 20 = 120 \text{ birds/pan}$

- for rationed feeding of pullets and layers

weight range: 1.3-1.5 kg Number of birds per pan: 45-60 pullets

weight range: 1.8-2.2 kg Number of birds per pan: 30-45 layers

- for rationed feeding of broilers calculate 25-30 % less birds per pan

Number of feed lines: 1 line per 4-6 m house width.

5.1.3 Drives for Augermatic Big Pan



The permissible operating voltage has to be complied with. If voltage fluctuation or particularly low voltage is to be expected, choose the next higher power stage.

Code-No.	Description	Max. conveying length (m)	Operating voltage (V)
11-31-4552	Drive 0,37KW 230/400V 50Hz AM5 wo/Sensor with switch box	120	400
	<u>Alternatives for Drive 11-31-4552:</u>		
11-31-4502	Drive 0,37KW 230V 1PH 50Hz AM5 wo/Sensor with switch box	90	230
11-31-4512	Drive 0,37KW 230/400V 60Hz AM5 wo/Sensor with switch box	125	400
11-31-4652	Drive 0,55KW 230/400V 50Hz AM5 wo/Sensor with switch box	145	360-400
	<u>Alternatives for Drive 11-31-4652</u>		
11-31-4602	Drive 0,55KW 230V 1PH 50Hz AM5 wo/Sensor with switch box	120	220-240
11-31-4612	Drive 0,55KW 230/400V 60Hz AM5 wo/Sensor with switch box	150	360-400
11-31-4613	Drive 0,55KW 200V 3PH 60Hz AM5 wo/Sensor with switch box	145	200
11-31-4653	Drive 0,55KW 200V 3PH 50Hz AM5 wo/Sensor with switch box	145	200

5.2 Planning instructions for AUGERMATIC Fluxx 330

For broilers, pullets and layers.

5.2.1 Planning aids for evaluating the total lifting load for suspended lines

With Big Pan dish (BP) at maximum feed filling.

Basic unit tube 2-holes with feed pans + feed:	15.2 kg/pc
Basic unit tube 3-holes with feed pans + feed:	18,5 kg/pc
Basic unit tube 4-holes with feed pans + feed:	22,0 kg/pc
Feed hopper + feed:	90.0 kg/line
Drive	20.0 kg/line

With Repromatic (RPM) at maximum feed filling.

Basic unit tube 2-holes with feed pans + feed:	14,0 kg/pc
Basic unit tube 3-holes with feed pans + feed:	16,7 kg/pc
Basic unit tube 4-holes with feed pans + feed:	19,4 kg/pc
Feed hopper + feed:	90.0 kg/line
Drive	20.0 kg/line

If halving of loads is applied, only half of the calculated total weight has to be considered for selecting the cable winch.

5.2.2 Planning aid for evaluating the number of lines and pans

11 31 4700 Feed pan cpl't Fluxx 330-14 with BP-dish

11 31 4750 Feed pan cpl't Fluxx 330-5 with BP-dish

11 31 4710 Feed pan cpl't Fluxx 330-14 plus with RPM-dish

11 31 4760 Feed pan cpl't Fluxx 330-5 plus with RPM-dish

- for ad-libitum feeding of broilers

weight range: 0-3,5 kg

Number of birds per pan:

100 birds up to 1,5 kg desired final weight

85 birds up to 2,0 kg desired final weight

70 birds up to 2,5 kg desired final weight

66 birds up to 3,0 kg desired final weight

55 birds up to 3,5 kg desired final weight

- for rationed feeding of pullets and layers
weight range: 1.3-1.5 kg Number of birds per pan: 45-60 pullets
weight range: 1.8-2.2 kg
Number of birds per pan: 30-45 layers
Number of feed lines: 1 line per 4-5 m house width.

5.2.3 Drives for Augermatic Fluxx



The permissible operating voltage has to be complied with. If voltage fluctuation or particularly low voltage is to be expected, choose the next higher power stage.

Code-No.	Description	Max. conveying length (m)	Operating voltage (V)
11-31-4552	Drive 0,37KW 230/400V 50Hz AM5 wo/Sensor with switch box	120	400
	Alternatives for Drive 11-31-4552:		
11-31-4502	Drive 0,37KW 230V 1PH 50Hz AM5 wo/Sensor with switch box	90	230
11-31-4512	Drive 0,37KW 230/400V 60Hz AM5 wo/Sensor with switch box	125	400
	Alternatives for Drive 11-31-4652:		
11-31-4652	Drive 0,55KW 230/400V 50Hz AM5 wo/Sensor with switch box	145	360-400
	Alternatives for Drive 11-31-4652:		
11-31-4602	Drive 0,55KW 230V 1PH 50Hz AM5 wo/Sensor with switch box	120	220-240
11-31-4612	Drive 0,55KW 230/400V 60Hz AM5 wo/Sensor with switch box	150	360-400
11-31-4613	Drive 0,55KW 200V 3PH 60Hz AM5 wo/Sensor with switch box	145	200
11-31-4653	Drive 0,55KW 200V 3PH 50Hz AM5 wo/Sensor with switch box	145	200

5.3 Planning instructions for AUGERMATIC Multi Pan 330

for turkeys, broilers and ducks



5.3.1 Planning aids for evaluating the total lifting load for suspended lines

Basic unit tube 2-holes with feed pans + feed:	14.7 kg/pc
Basic unit tube 3-holes with feed pans + feed:	18.3 kg/pc
Basic unit tube 4-holes with feed pans + feed:	21.6 kg/pc
Feed hopper + feed:	90.0 kg/line
Drive	20.0 kg/line

If halving of loads is applied, only half of the calculated total weight has to be considered for selecting the cable winch.

5.3.2 Planning aid for evaluating the number of lines and pans

11 31 3570 Feed pan cpl. MP330 without shut-off with MP dish

11 31 3560 Feed pan cpl. MP330 with shut-off with MP dish

- for ad-libitum feeding of turkeys and ducks

weight range: 0-2.5 kg

Number of birds per pan: $(125 : \text{desired final weight} + 20)$

e.g.: $125 : 1.25 \text{ kg/bird} + 20 = 120 \text{ birds/pan}$

11 31 3555 Feed pan cpl. MP330 with shut-off and BP dish

- for ad-libitum feeding of broilers, turkeys and ducks

weight range: 0-2.0 kg Number of birds per pan: $(125 : \text{desired final weight} + 20)$

e.g.: $(125 : 1.25 \text{ kg/bird}) + 20 = 120 \text{ birds/pan}$

weight range: 2.0-7.0 kg Number of birds per pan: $95 - (5 \times \text{desired final weight})$

e.g.: $95 - (5 \times 5 \text{ kg/bird}) = 70 \text{ birds/pan}$

weight range: 7.0-12.0 kg Number of birds per pan: $(205 : \text{desired final weight}) + 25$

e.g.: $(250 : 10.00 \text{ kg/bird}) + 25 = 50 \text{ birds/pan}$

Number of feed lines: 1 line per 4-6 m house width.

11 31 3565 Feed pan cpl. MP330 Plus with shut-off and RPM dish

- for ad-libitum feeding of broilers, turkeys and ducks

weight range: 0-2.0 kg Number of birds per pan: $(125 : \text{desired final weight}) + 20$

e.g.: $(125:1.25 \text{ kg/bird}) + 20 = 120 \text{ birds/pan}$

weight range: 2.0-7.0 kg Number of birds per pan: $95 - (5 \times \text{desired final weight})$

e.g.: $95 - (5 \times 5 \text{ kg/bird}) = 70 \text{ birds/pan}$

weight range: 7.0-12.0 kg Number of birds per pan: $(205 : \text{desired final weight}) + 25$

e.g.: $(250:10.00 \text{ kg/bird}) + 25 = 50 \text{ birds/pan}$

- for rationed feeding calculate approx. 25-30 % less birds per pan

Number of feed lines: 1 line per 4-6 m house width

5.3.3 Drives for Augermatic Multi Pan

The permissible operating voltage has to be complied with. If voltage fluctuation or particularly low voltage is to be expected, choose the next higher power stage.

Code-No.	Description	Max. conveying length (m)	Operating voltage (V)
11-31-4552	Drive 0,37KW 230/400V 50Hz AM5 wo/Sensor with switch box	120	400
	<u>Alternatives for Drive 11-31-4552:</u>		
11-31-4502	Drive 0,37KW 230V 1PH 50Hz AM5 wo/Sensor with switch box	90	230
11-31-4512	Drive 0,37KW 230/400V 60Hz AM5 wo/Sensor with switch box	125	400
11-31-4652	Drive 0,55KW 230/400V 50Hz AM5 wo/Sensor with switch box	145	360-400
	<u>Alternatives for Drive 11-31-4652</u>		
11-31-4602	Drive 0,55KW 230V 1PH 50Hz AM5 wo/Sensor with switch box	120	220-240
11-31-4612	Drive 0,55KW 230/400V 60Hz AM5 wo/Sensor with switch box	150	360-400
11-31-4613	Drive 0,55KW 200V 3PH 60Hz AM5 wo/Sensor with switch box	145	200
11-31-4653	Drive 0,55KW 200V 3PH 50Hz AM5 wo/Sensor with switch box	145	200



5.4 Planning instructions for AUGERMATIC Male Pan

for broiler breeders and males

5.4.1 Planning aids for evaluating the total lifting load for suspended lines

Basic unit tube 1-hole with feed pans + feed:	11.1 kg/pc
Basic unit tube 2-holes with feed pans + feed:	14.7 kg/pc
Basic unit tube 3-holes with feed pans + feed:	18.3 kg/pc
Drive (all types)	20.0 kg/line
Feed hopper 1 line + feed:	90.0 kg/line
Feed hopper 2 lines + feed:	90.0 kg/line
Hopper extension	32.0 kg/line

If halving of loads is applied, only half of the calculated total weight has to be considered for selecting the cable winch.

5.4.2 Planning aid for evaluating the number of lines and pans

11 31 3585 Feed pan cpl. Male Pan with shut-off and BP dish

11 31 3590 Feed pan cpl. Male Pan with shut-off and RPM dish

- for restricted feeding of broiler breeder males

Number of birds per pan: 7-9 (Male Pan) or 7-8 (Male Pan plus)

Number of feed lines: 1 line per 6-9 m house width.

5.4.3 Drives for AUGERMATIC Male Pan

Male Pan with daily lowering of the filled feed pans

Code-No.	Description	Max. conveying length (m)	Operating voltage (V)
11-31-4552	Drive 0,37KW 230/400V 50Hz AM5 wo/Sensor with switch box	120	400
	For central alignment: 2x per line		
11-31-4552	Drive 0,37KW 230/400V 50Hz AM5 wo/Sensor with switch box	2 x 120	400
	Alternatives for Drive 11-31-4552:		
11-31-4502	Drive 0,37KW 230V 1PH 50Hz AM5 wo/Sensor with switch box	90	230
11-31-4512	Drive 0,37KW 230/400V 60Hz AM5 wo/Sensor with switch box	125	400
11-31-4652	Drive 0,55KW 230/400V 50Hz AM5 wo/Sensor with switch box	145	360-400
	For central alignment: 2x per line		
11-31-4652	Drive 0,55KW 230/400V 50Hz AM5 wo/Sensor with switch box	2x145	360-400
	Alternatives for Drive 11-31-4652		
11-31-4602	Drive 0,55KW 230V 1PH 50Hz AM5 wo/Sensor with switch box	120	230
11-31-4612	Drive 0,55KW 230/400V 60Hz AM5 wo/Sensor with switch box	150	400
11-31-4613	Drive 0,55KW 200V 3PH 60Hz AM5 wo/Sensor with switch box	145	200
11-31-4653	Drive 0,55KW 200V 3PH 50Hz AM5 wo/Sensor with switch box	145	200

Male Pan without daily lowering of the filled feed pans (with Rapid Rooster Drive)

Code-No.	Description	Max. conveying length (m)	Operating voltage (V)
11-03-3750	Drive 0,55KW 230/400V 50Hz AM4-Rapid-Rooster with Sensor	75	400
	For central alignment: 2x per line		
11-03-3750	Drive 0,55KW 230/400V 50Hz AM4-Rapid-Rooster with Sensor	2 x 75	400

6 Technical data

Lower part and upper part of feed hopper	content approx. 115 l / 75 kg
Extension for feed hopper	content approx. 38 l / 25 kg
Drive unit with gear motor	0,37 / 0.55 kW, 230/400 V, 50 Hz, 3 phases, 325 rpm
Conveying capacity	approx. 450 kg/h
Size of pellets	up to 4 mm

BIG PAN 330 and BIG PAN PLUS

Material	polypropylene, recyclable
Rim height BIG PAN 330	76 mm
Rim height BIG PAN Plus	61 mm
Pan diameter	330 mm

Fluxx

Material	polypropylene, recyclable
Rim height with BIG PAN (BP) dish	76 mm
Rim height Repromatic (RPM) dish	51 mm
Pan diameter	330 mm

MULTI PAN and MULTI PAN PLUS

Material	polypropylene, recyclable
Rim height MULTI PAN with MP- dish	46 mm
Rim height MULTI PAN and BP- dish	76 mm
Rim height MULTI PAN and BP- dish with collar	132 mm
Rim height MULTI PAN and RPM- dish	46 mm
Rim height MULTI PAN and RPM- dish with collar	102 mm
Pan diameter without collar	330 mm
Pan diameter with collar	430 mm

MALE PAN and MALE PAN PLUS

Material	polypropylene, recyclable
Rim height MALE PAN with BP-dish	76 mm
Rim height MALE PAN PLUS and RPM- dish	46 mm
Pan diameter without collar	330 mm

During feeding, the **BIG DUTCHMAN Augermatic** system creates a sound level <70 dB (A).

General plan: Dimensions of feed pans

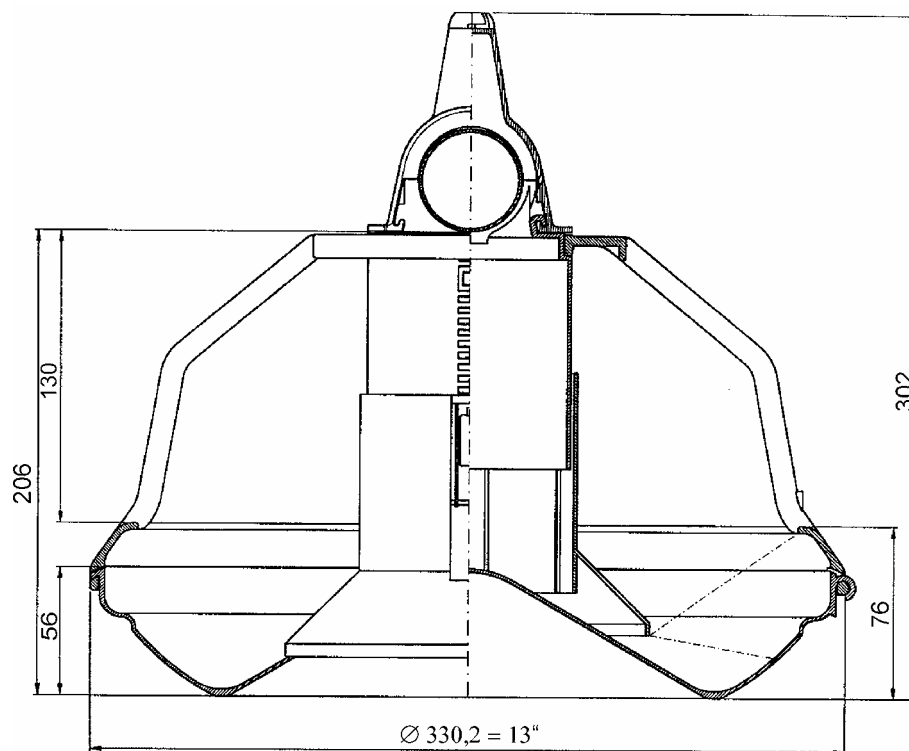


Fig. 741.04 11-31-3501 BP330 without shut-off

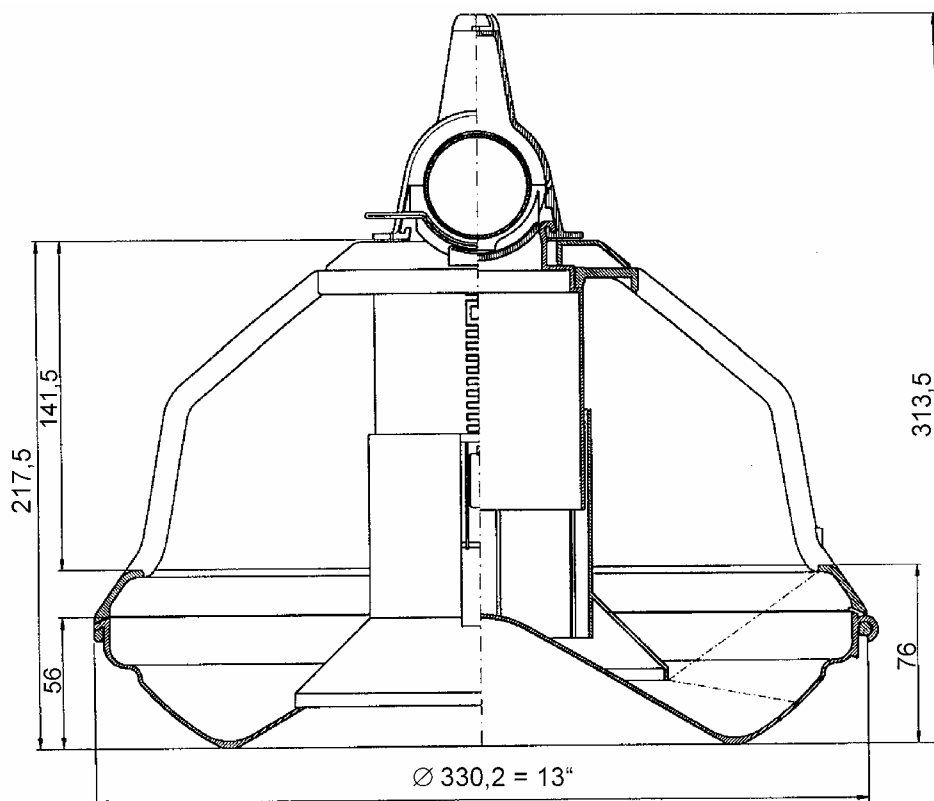


Fig. 741.05 11-31-3530 BP330 with shut-off

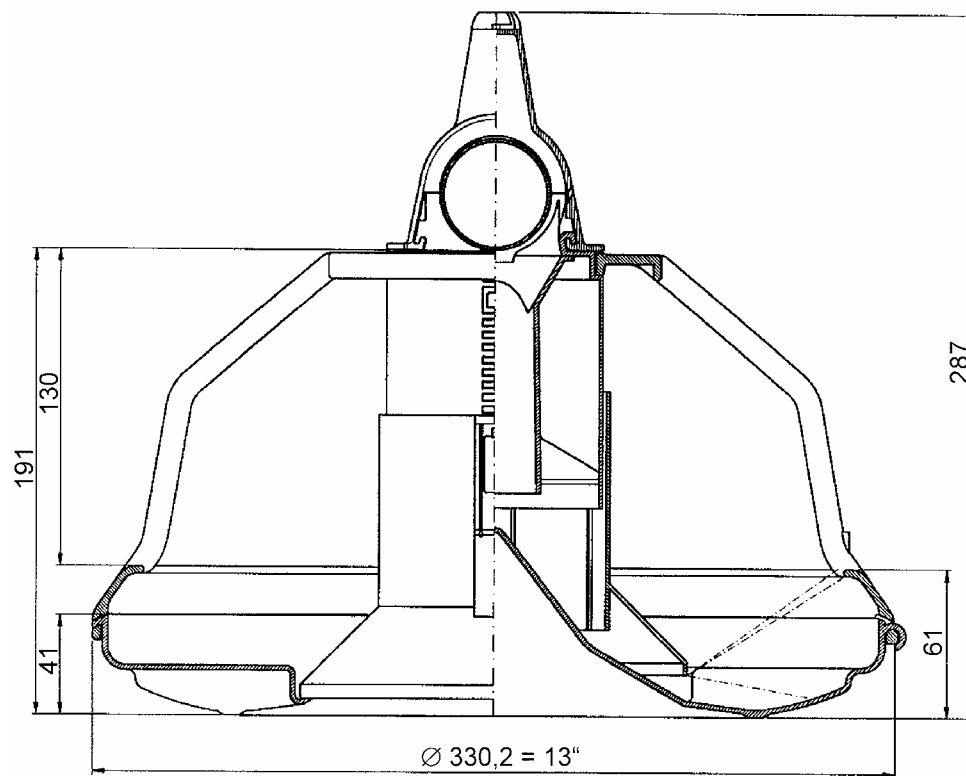


Fig. 741.06 11-31-3701 BP330-Plus without shut-off

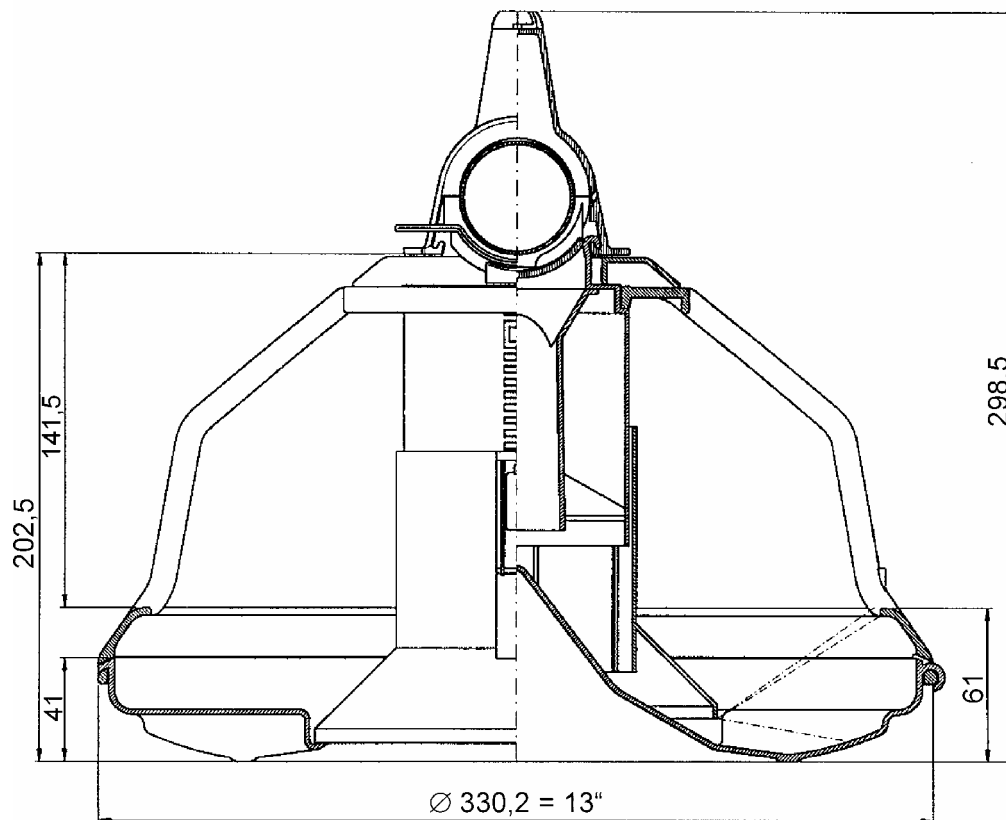


Fig. 741.07 11-31-3730 BP330-Plus with shut-off

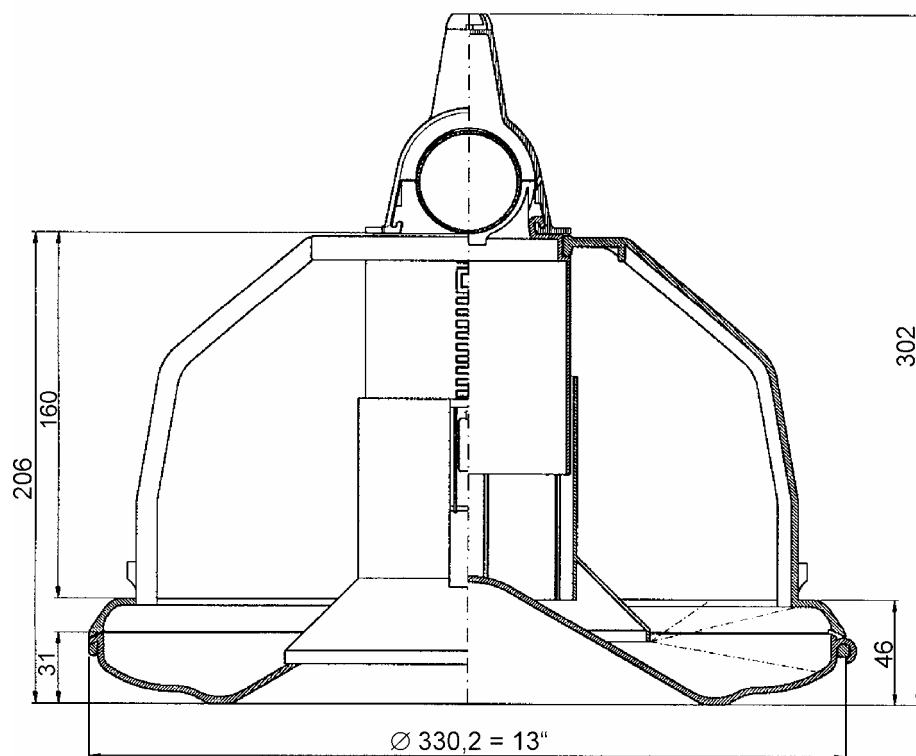


Fig. 741.08 11-31-3570 MP330 without shut-off with MP-dish

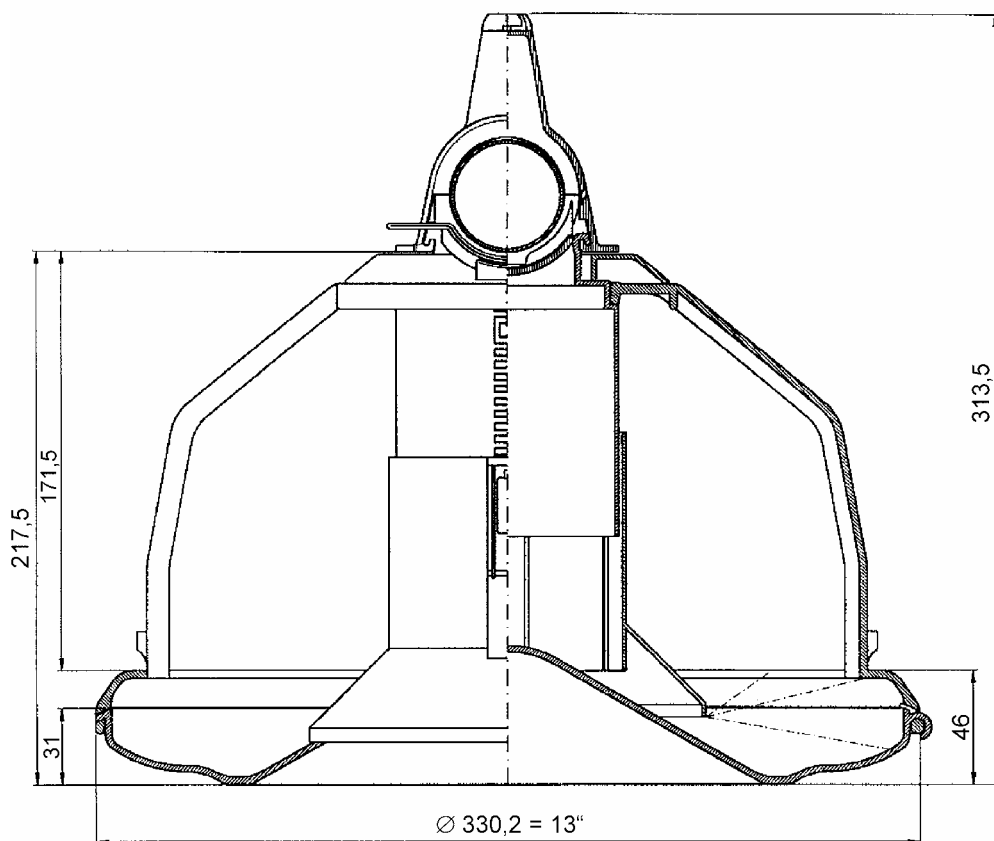


Fig. 741.09 11-31-3560 MP330 with shut-off and MP-dish

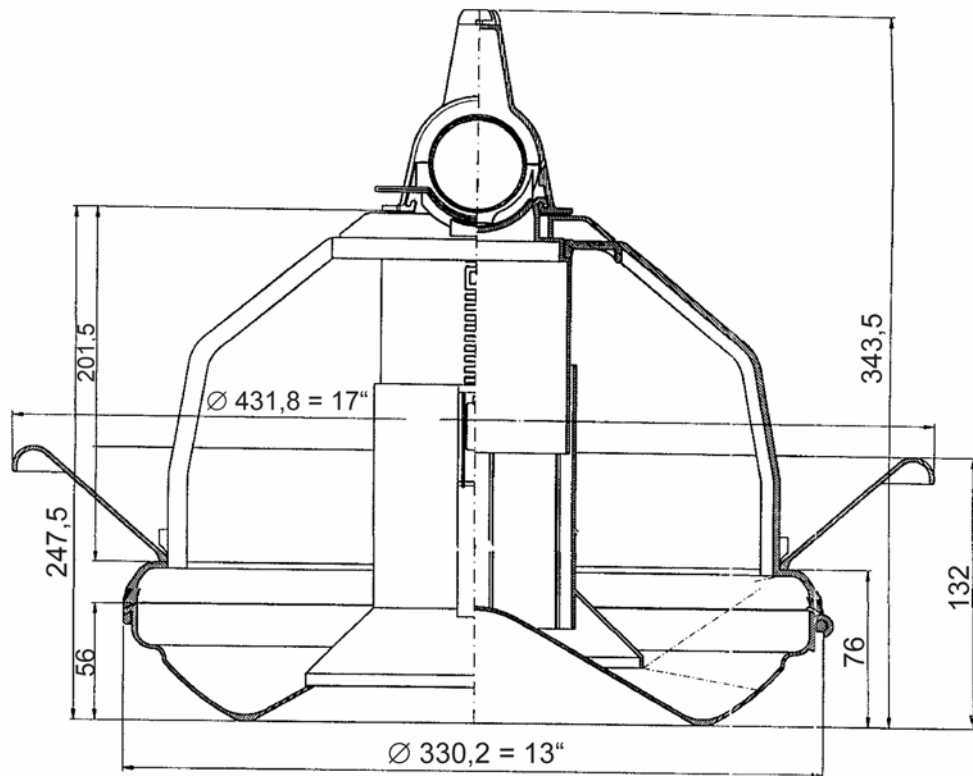


Fig. 741.10 11-31-3555 MP330 with shut-off and BP-dish,
feed saving collar = optional

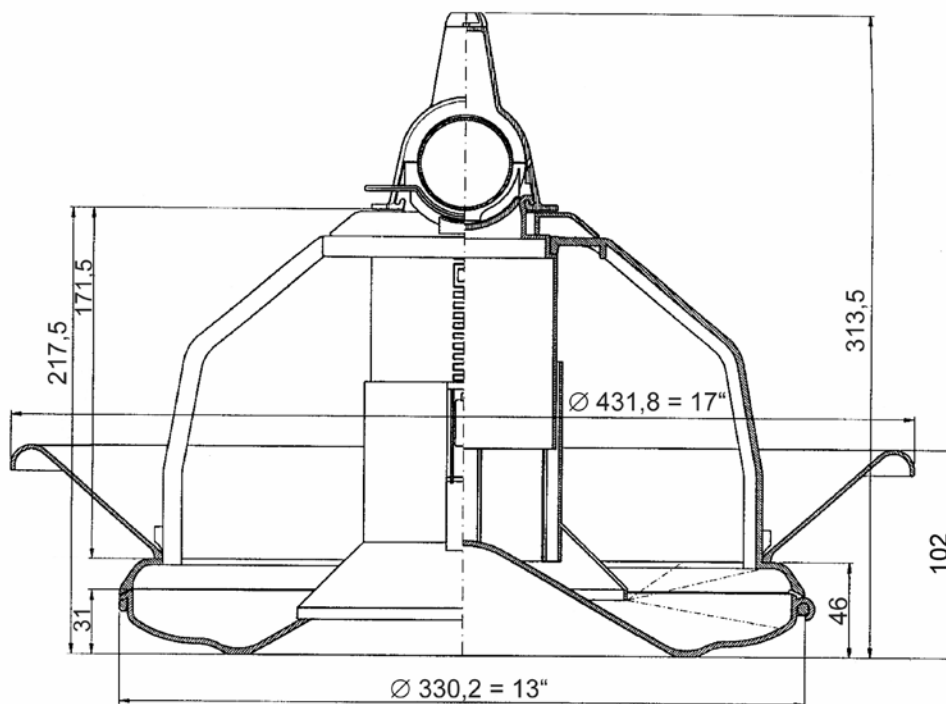


Fig. 741.11 11-31-3565 MP330 plus with shut-off and RPM-dish,
feed saving collar = optional

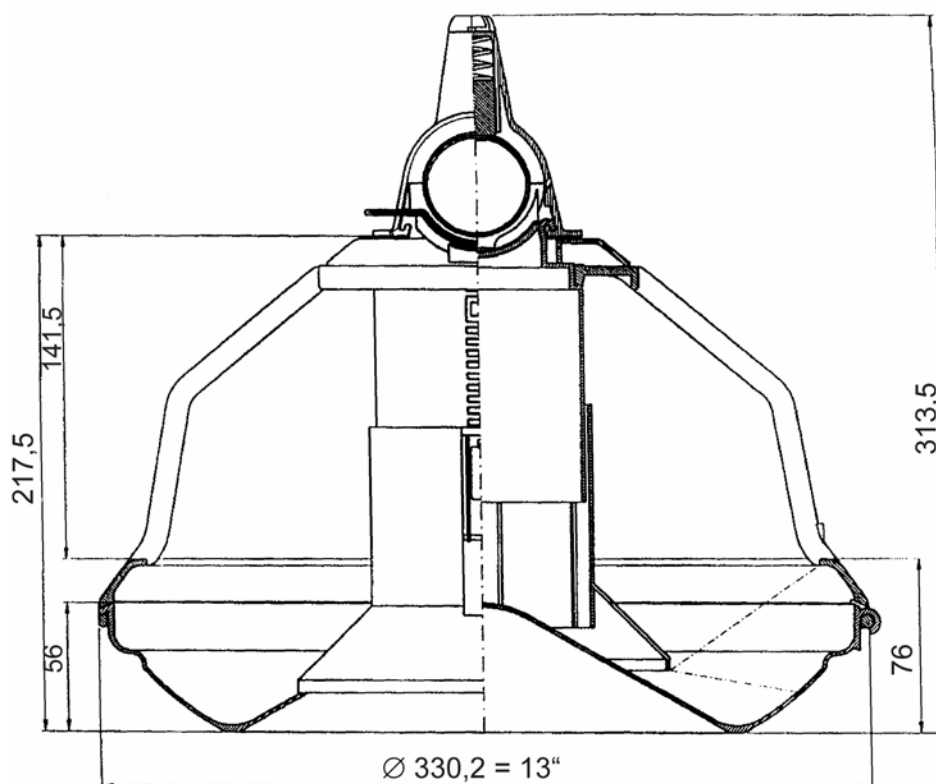


Fig. 741.12 11-31-3585 Male Pan with shut-off and BP-dish

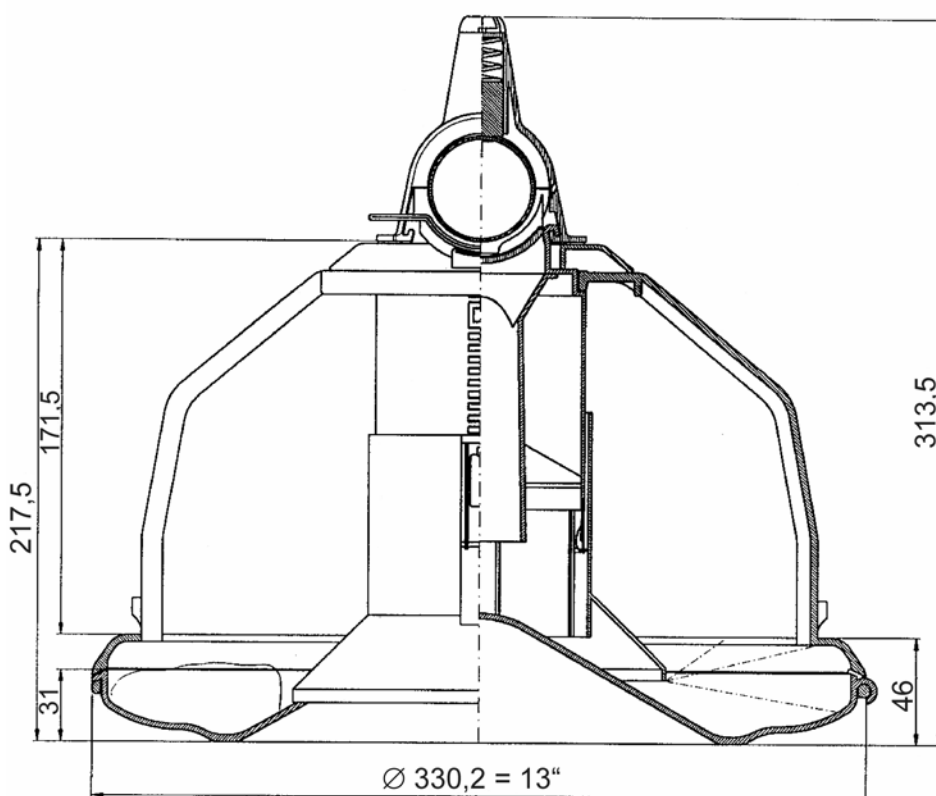


Fig. 741.13 11-31-3590 Male Pan plus with shut-off and RPM-dish

7 Parts lists for feed and control pans

7.1 Parts lists for Big Pan 330

7.1.1 11 31 3501 Feed pan cpl. BP330 without shut-off

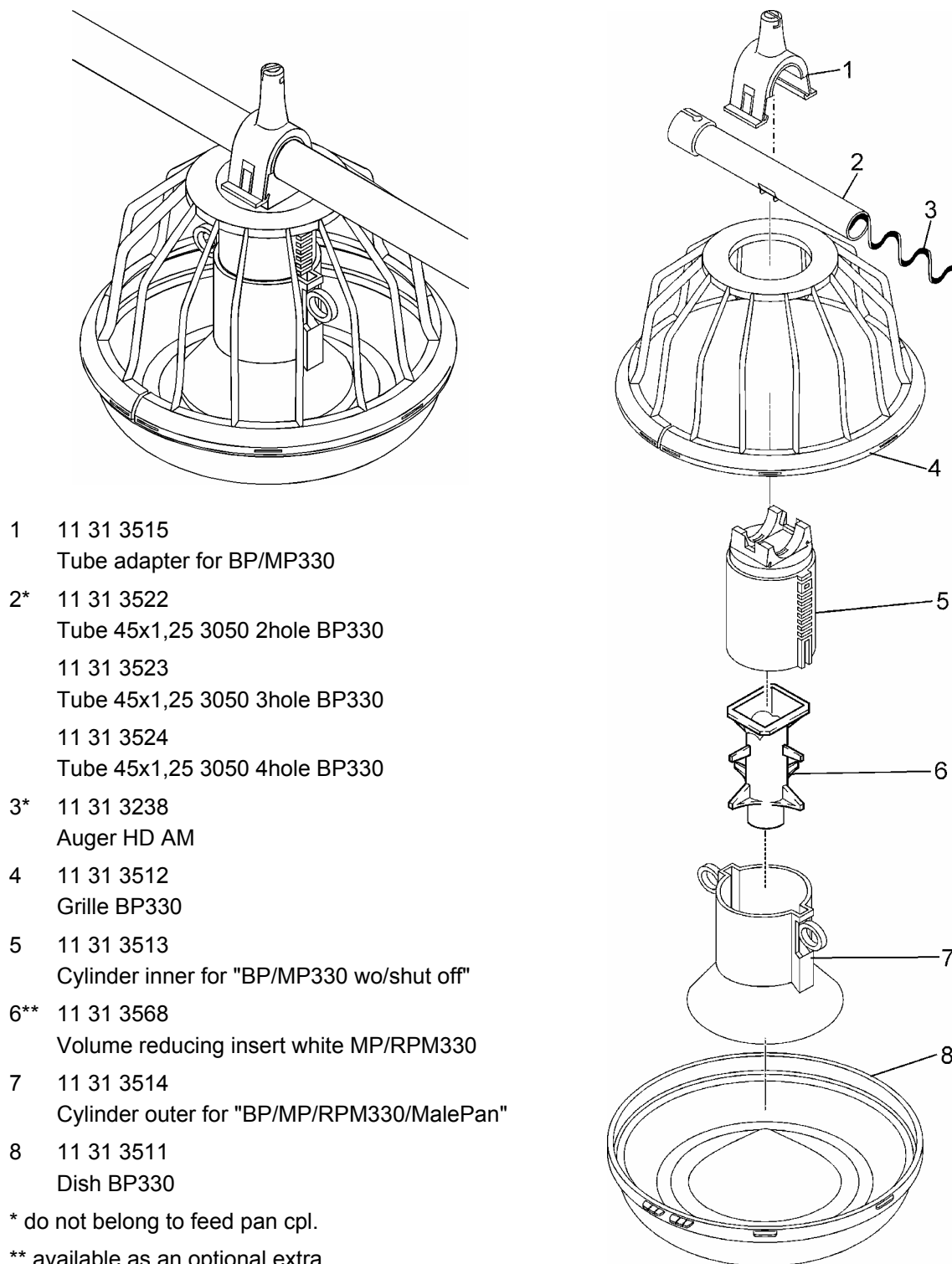


Fig. 741.14

7.1.2 11 31 3530 Feed pan cpl. BP330 with shut-off

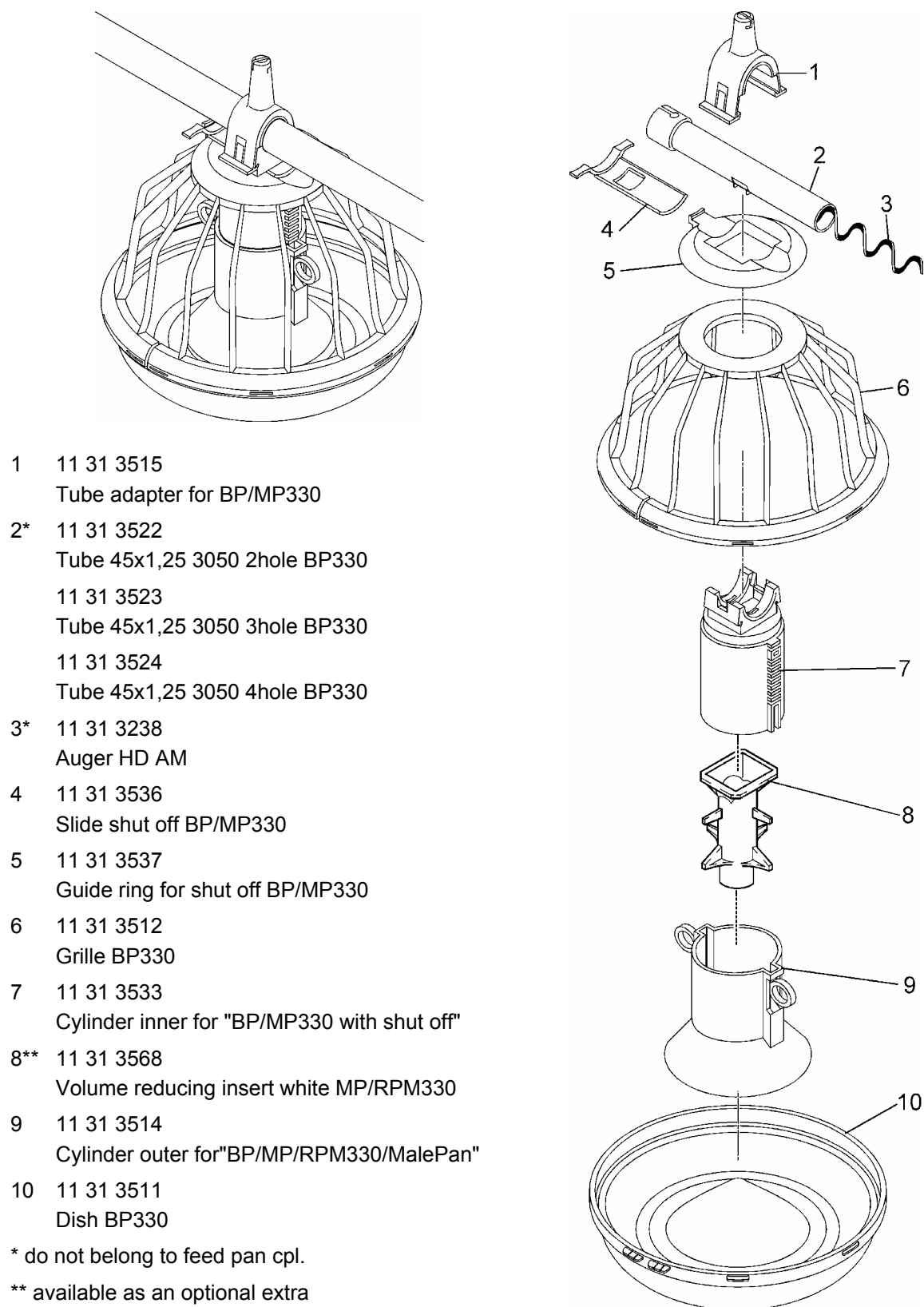


Fig. 741.15



7.1.3 11 31 3552 Control pan cpl. BP330 incl sensor AFS

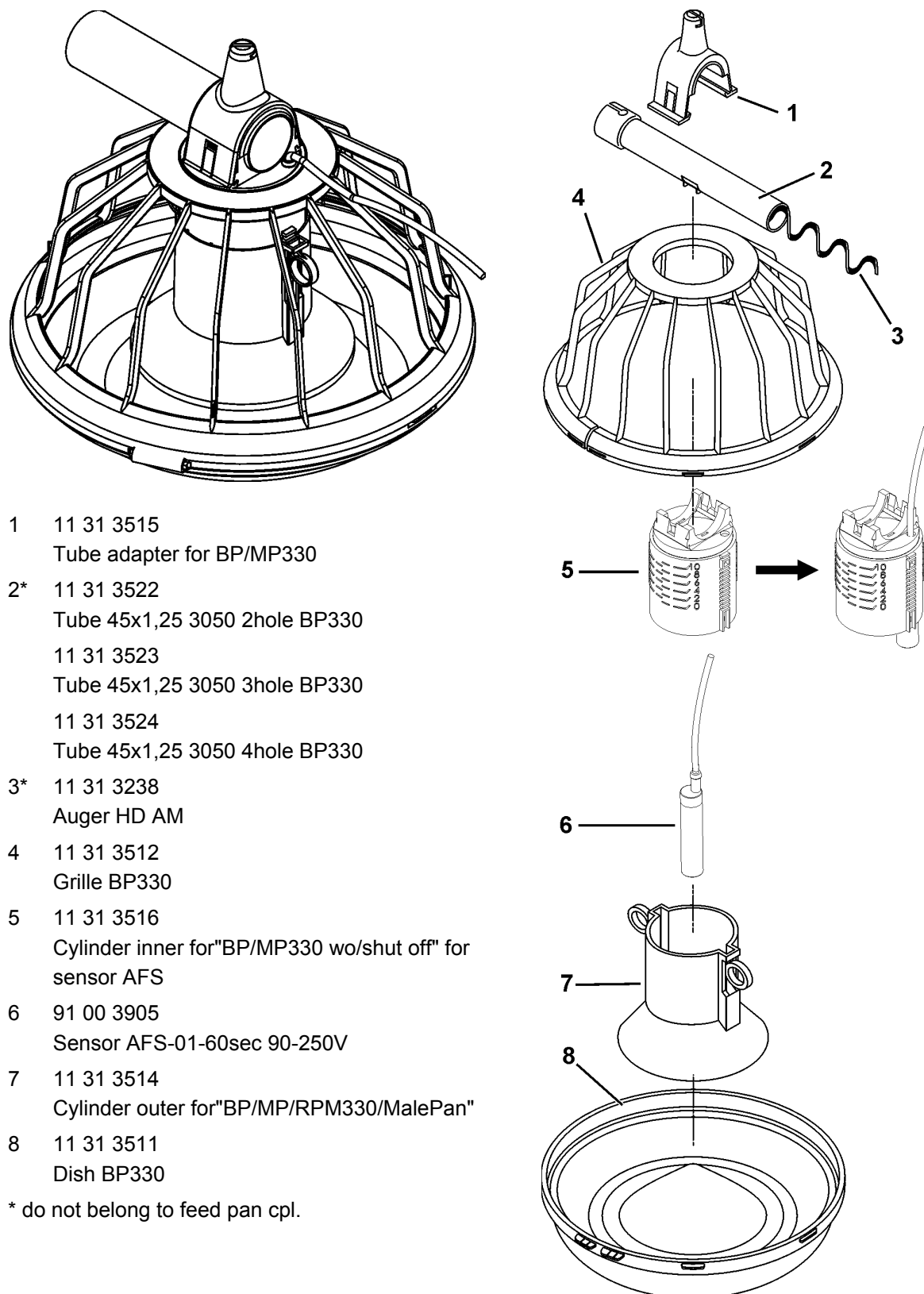


Fig. 741.16 a

7.1.4 11 31 3553 Control Pan cpl BP330 incl sensor MS45R

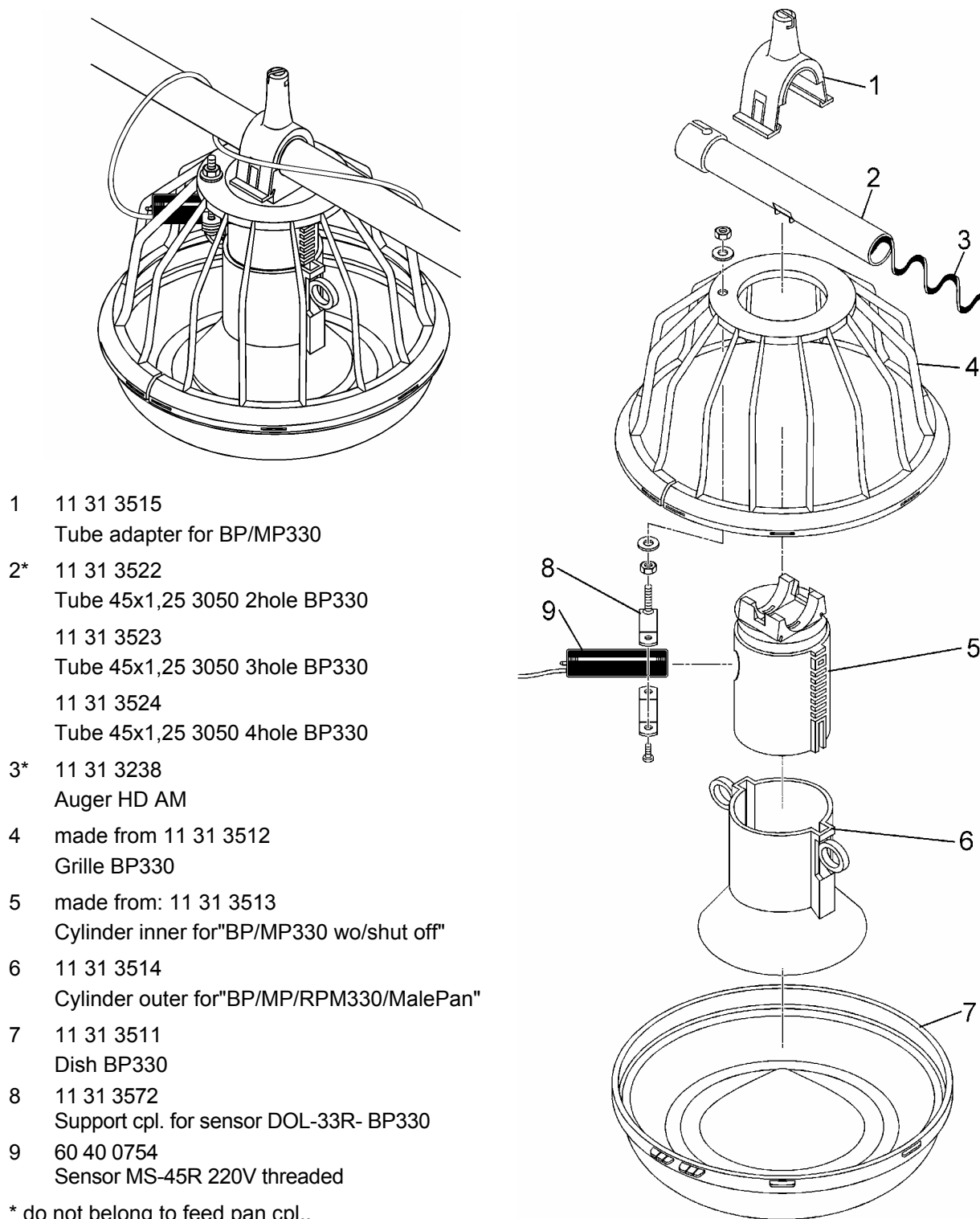


Fig. 741.16 b

7.1.5 11 31 3701 Feed pan cpl. BP330-Plus without shut-off

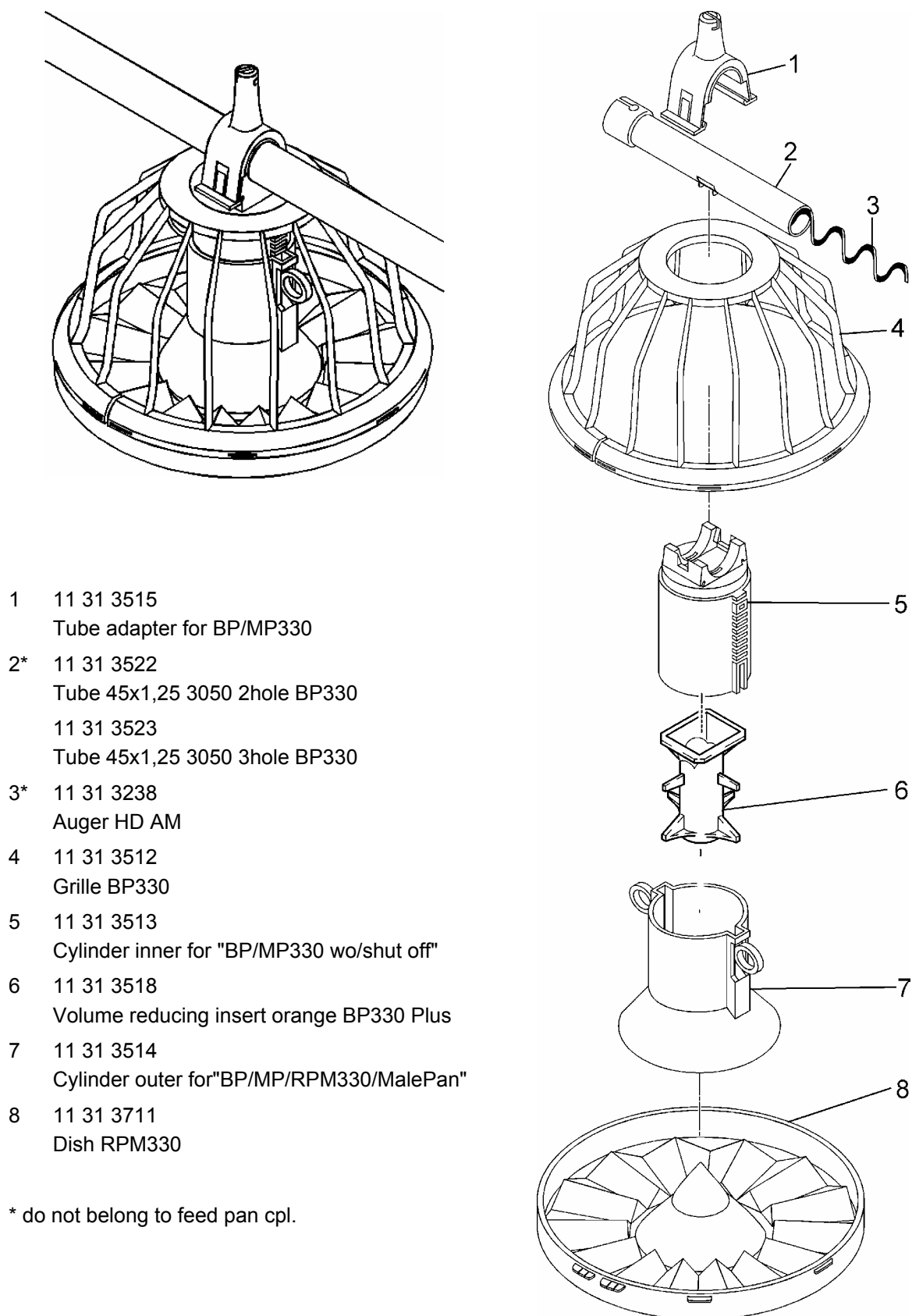
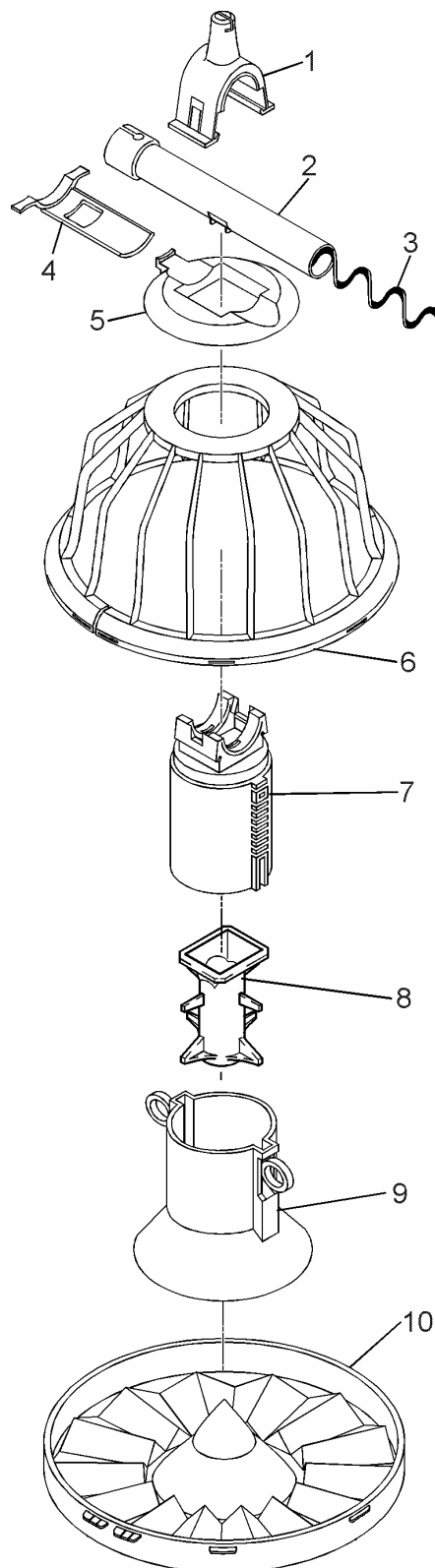
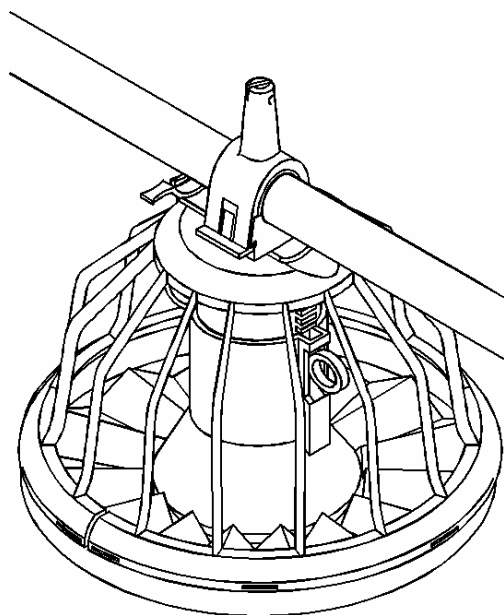


Fig. 741.17

7.1.6 11 31 3730 Feed pan cpl. BP330-Plus with shut-off



- 1 11 31 3515
Tube adapter for BP/MP330
- 2* 11 31 3522
Tube 45x1,25 3050 2hole BP330
- 11 31 3523
Tube 45x1,25 3050 3hole BP330
- 3* 11 31 3238
Auger HD AM
- 4 11 31 3536
Slide shut off BP/MP330
- 5 11 31 3537
Guide ring for shut off BP/MP330
- 6 11 31 3512
Grille BP330
- 7 11 31 3533
Cylinder inner for"BP/MP330 with shut off"
- 8 11 31 3518
Volume reducing insert orangeBP330 Plus
- 9 11 31 3514
Cylinder outer for"BP/MP/RPM330/MalePan"
- 10 11 31 3711
Dish RPM330

* do not belong to feed pan cpl.

Fig. 741.18



7.1.7 11 31 3732 Control pan cpl. BP330-Plus incl sensor AFS

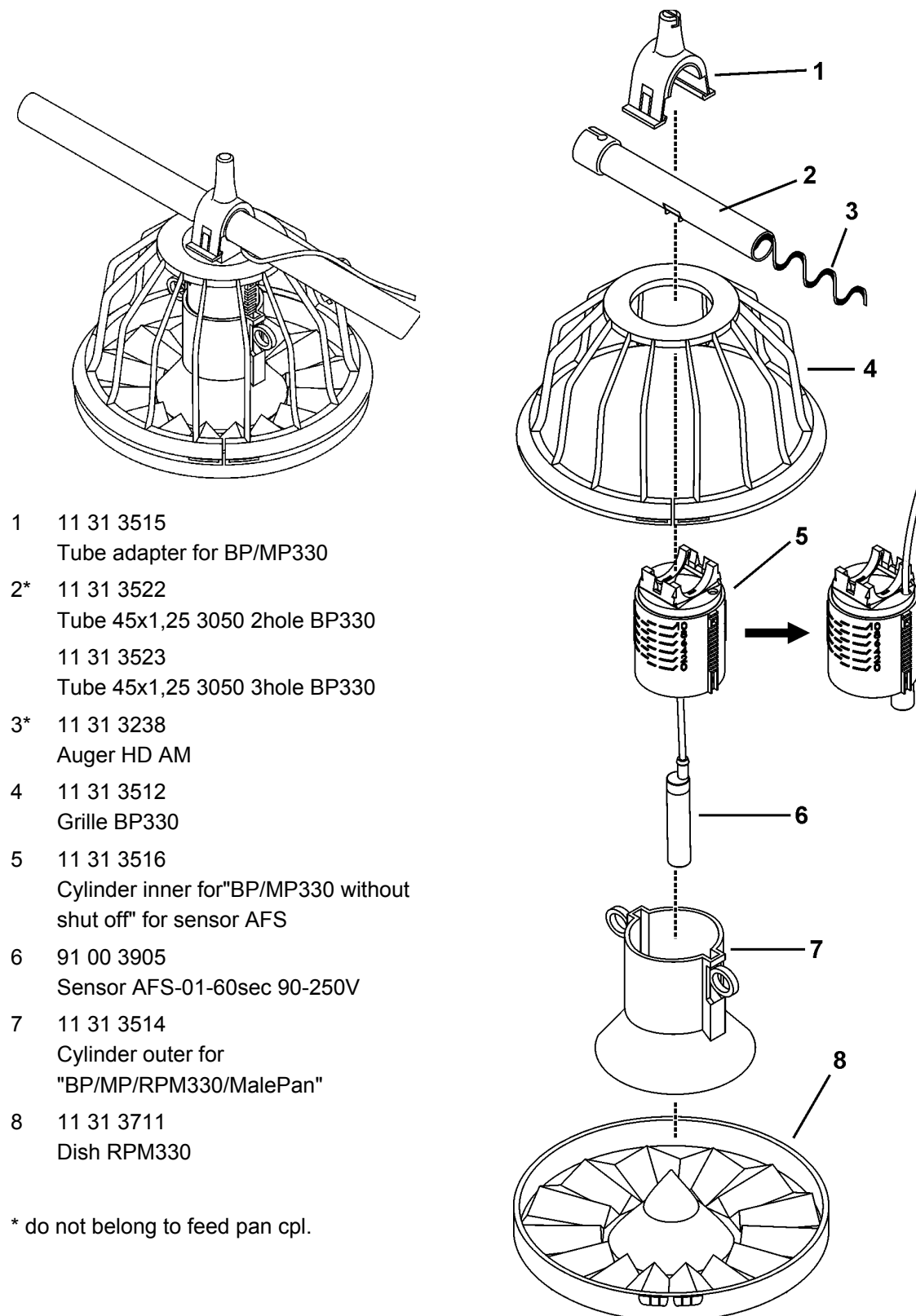


Fig. 741.19

7.2 Parts lists for Multi Pan 330 feed and control pans

7.2.1 11 31 3570 Feed pan cpl. MP330 without shut-off with MP-dish

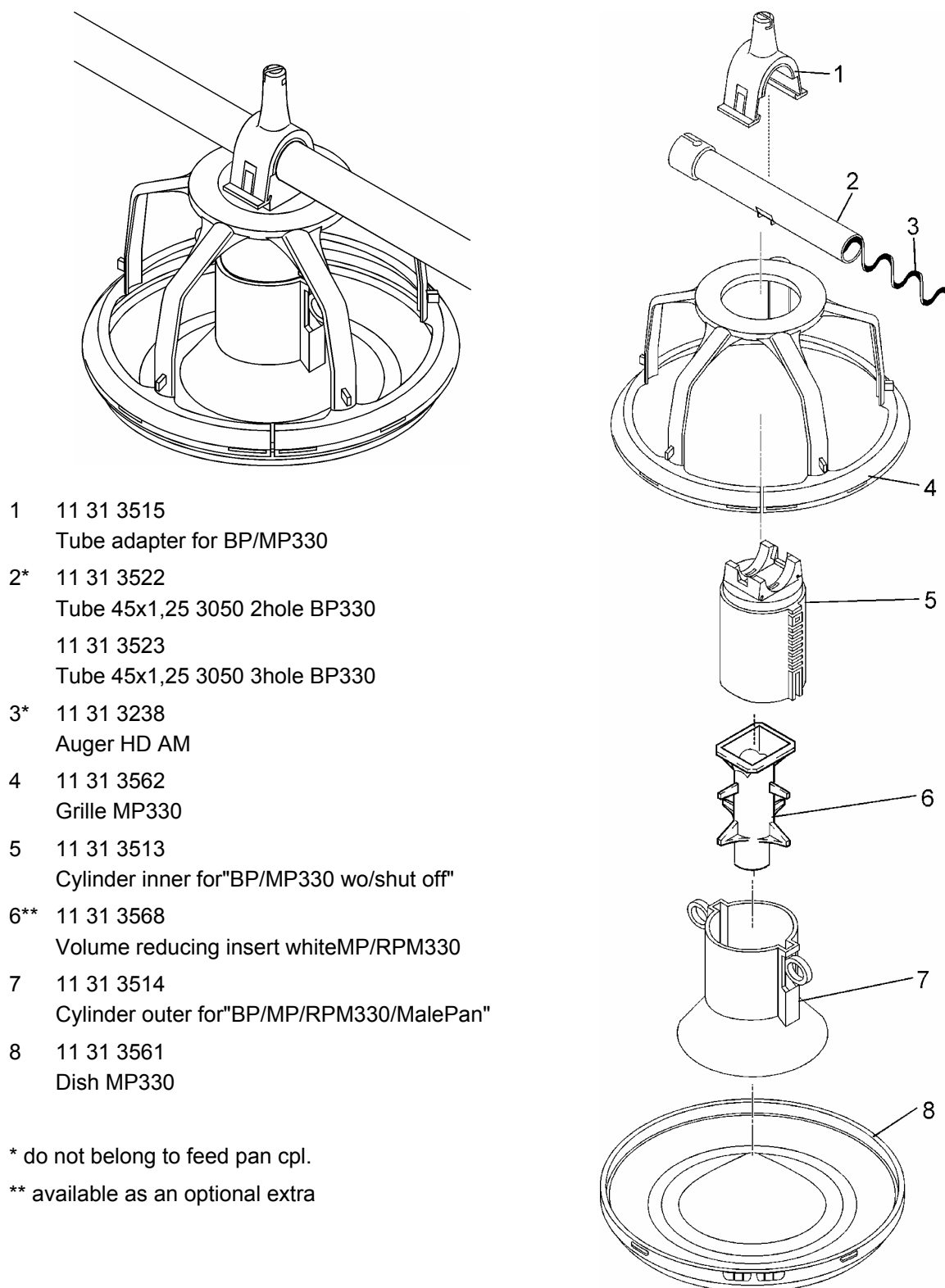


Fig. 741.20

7.2.2 11 31 3560 Feed pan cpl. BP330 with shut-off and MP-dish

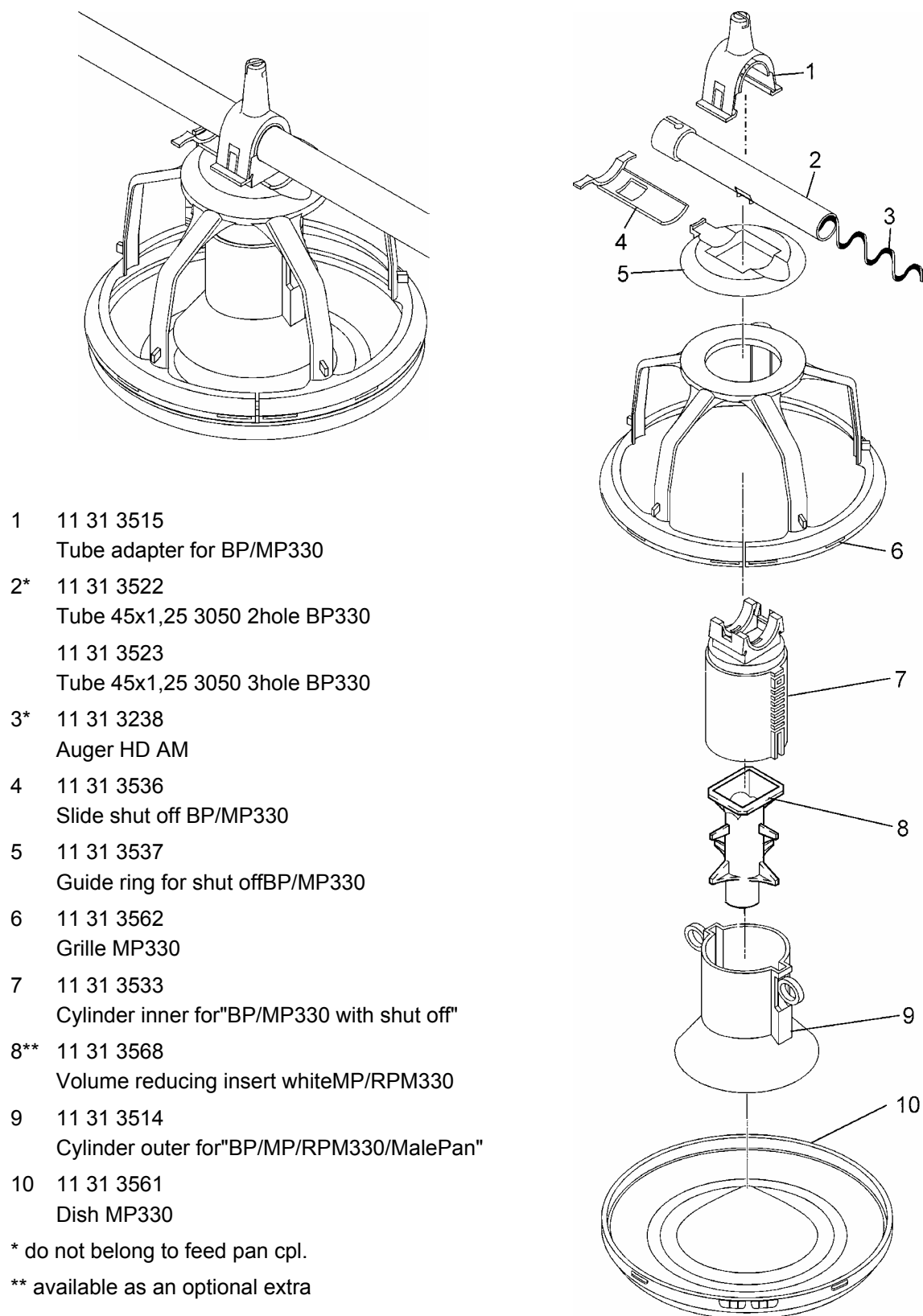


Fig. 741.21

7.2.3 11 31 3573 Control pan cpl. MP330 incl sensor AFS

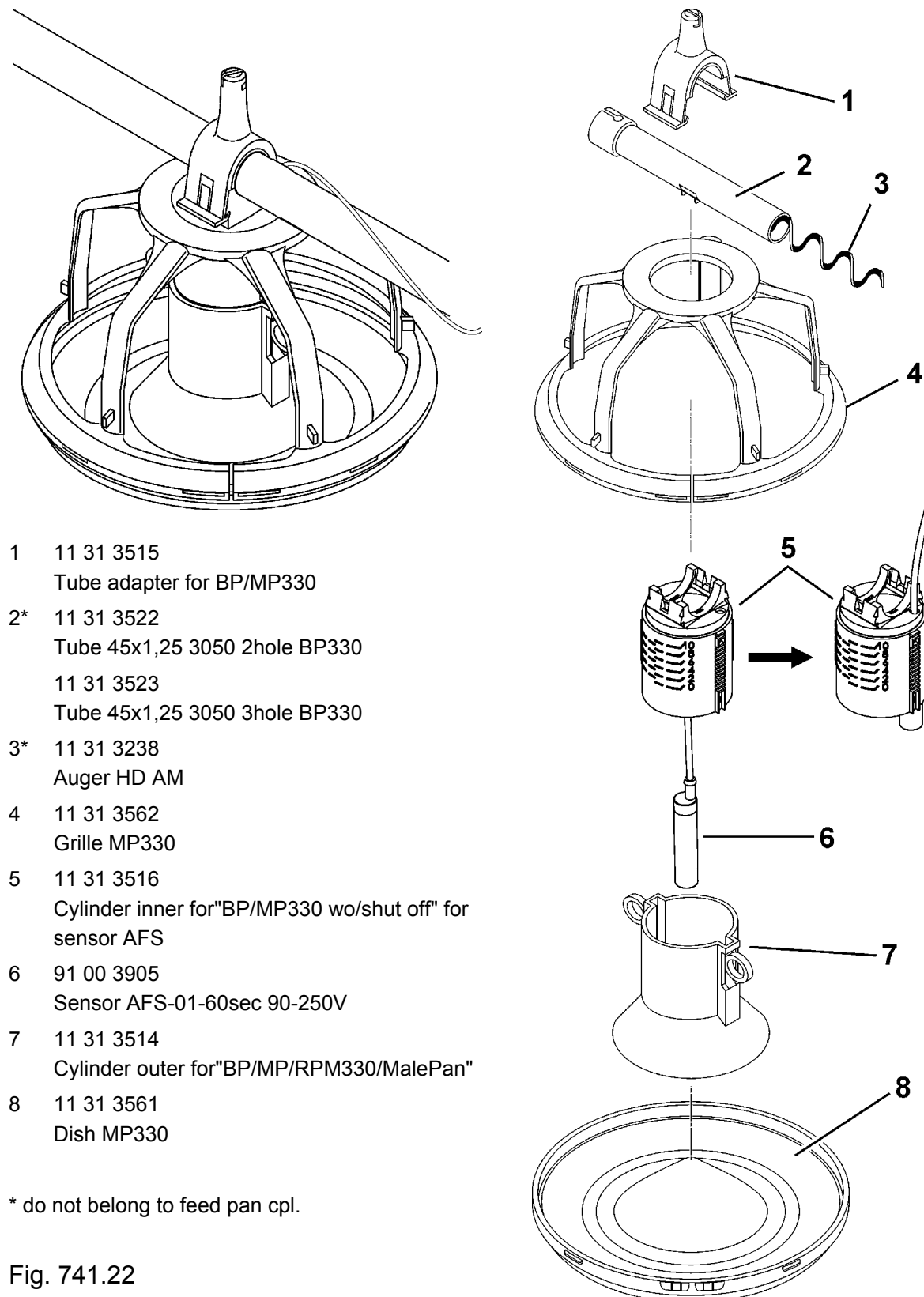
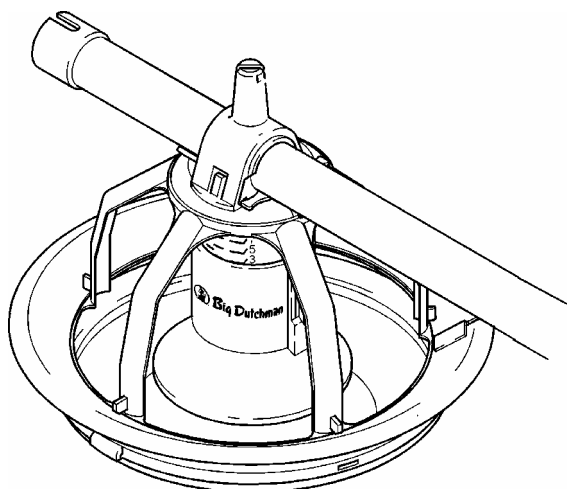


Fig. 741.22

7.2.4 11 31 3555 Feed pan cpl. MP330 with shut-off and BP-dish

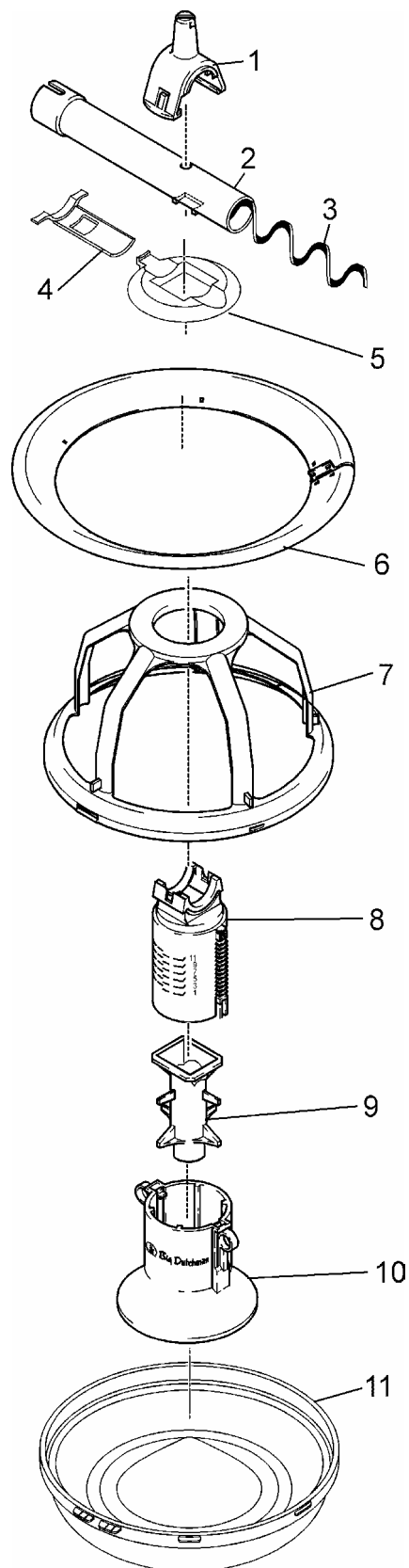


- 1 11 31 3515
Tube adapter for BP/MP330
- 2* 11 31 3522
Tube 45x1,25 3050 2hole BP330
- 11 31 3523
Tube 45x1,25 3050 3hole BP330
- 3* 11 31 3238
Auger HD AM
- 4 11 31 3536
Slide shut off BP/MP330
- 5 83 00 0130
Guide ring for shut off Male Pan
- 6** 11 31 3569
Feed saving collar MP330
- 7 11 31 3562
Grille MP330
- 8 83 00 0131
Cylinder inner for "Male Pan with shut off"
- 9** 11 31 3568
Volume reducing insert whiteMP/RPM330
- 10 11 31 3514
Cylinder outer for "BP/MP/RPM330/MalePan"
- 11 11 31 3511
Dish BP330

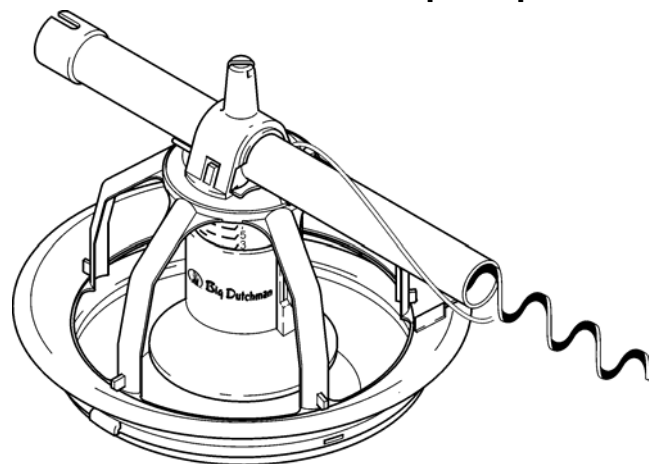
* do not belong to feed pan cpl.

** available as an optional extra

Fig. 741.23



7.2.5 11-31-3557 Control pan cpl. MP330 with BP dish incl Sensor AFS



- 1 11 31 3515
Tube adapter for BP/MP330
- 2* 11 31 3522
Tube 45x1,25 3050 2hole BP330
- 11 31 3523
Tube 45x1,25 3050 3hole BP330
- 3* 11 31 3238
Auger HD AM
- 4 11 31 3536
Slide shut off BP/MP330
- 5 83 00 9502
Guide ring for shut off for sensor AFS
- 6** 11 31 3569
Feed saving collar MP330
- 7 11 31 3562
Grille MP330
- 8 83 00 9503
Cylinder inner for "Male Pan with shut off" for sensor AFS
- 9 91 00 3905
Sensor AFS-01-60sec 90-250V
- 10 11 31 3514
Cylinder outer for "BP/MP/RPM330/MalePan"
- 11 11 31 3511
Dish BP330

* do not belong to feed pan cpl.

** available as an optional extra

Fig. 741.24

7.2.6 11-31-3565 Feed pan cpl. MP330 plus with shut-off and RPM-dish

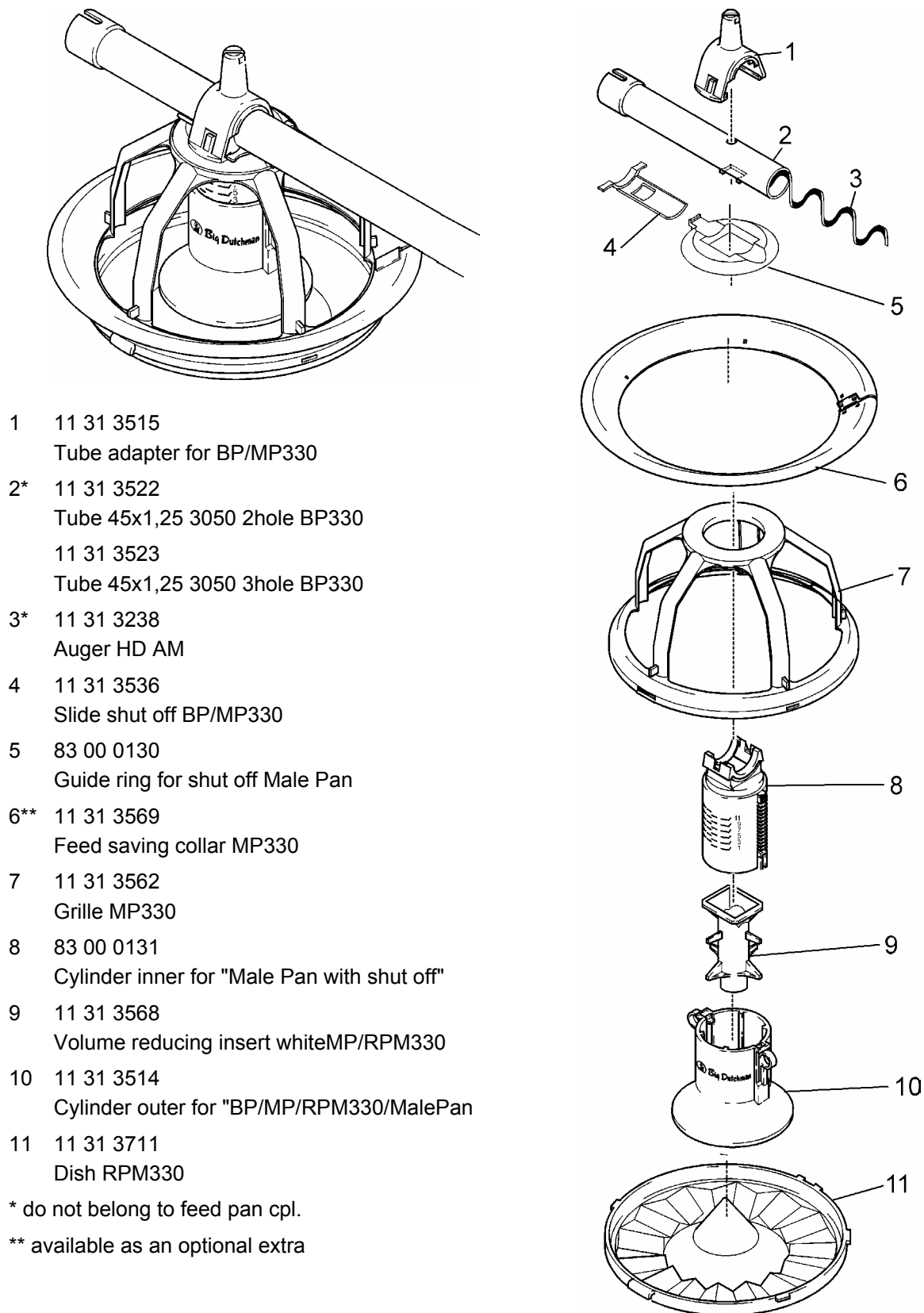
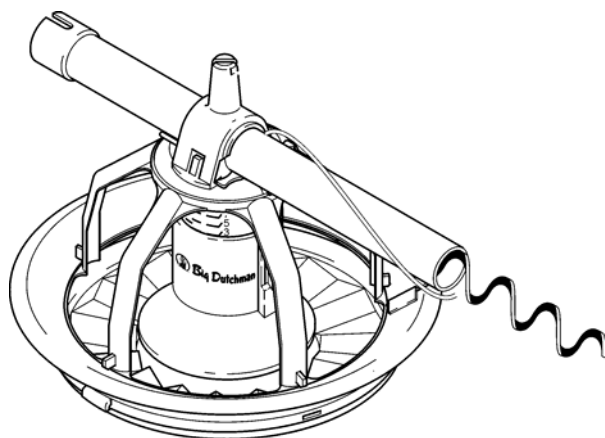


Fig. 741.25

7.2.7 11 31 3567 Control pan cpl. MP330-plus w/RPM dish incl sensor AFS

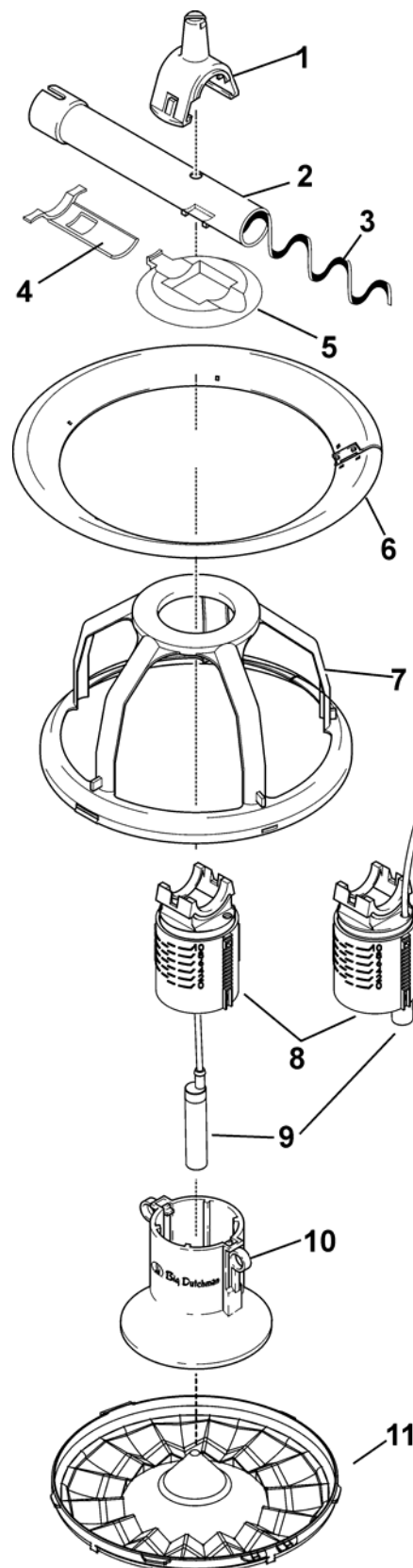


- 1 11 31 3515
Tube adapter for BP/MP330
- 2* 11 31 3522
Tube 45x1,25 3050 2hole BP330
- 11 31 3523
Tube 45x1,25 3050 3hole BP330
- 3* 11 31 3238
Auger HD AM
- 4 11 31 3536
Slide shut off BP/MP330
- 5 83 00 9502
Guide ring for shut off for sensor AFS
- 6** 11 31 3569
Feed saving collar MP330
- 7 11 31 3562
Grille MP330
- 8 83 00 9503
Cylinder inner for "Male Pan with shut off" for sensor AFS
- 9 91 00 3905
Sensor AFS-01-60sec 90-250V
- 10 11 31 3514
Cylinder outer for "BP/MP/RPM330/MalePan" and drawing No. 6-11-1773
- 11 11 31 3711
Dish RPM330

* do not belong to feed pan cpl.

** available as an optional extra

Fig. 741.26



7.3 Parts lists for Fluxx 330 feed and control pans

7.3.1 11-31-4700 Feed pan cpl FLUXX 330-14 with BP-dish

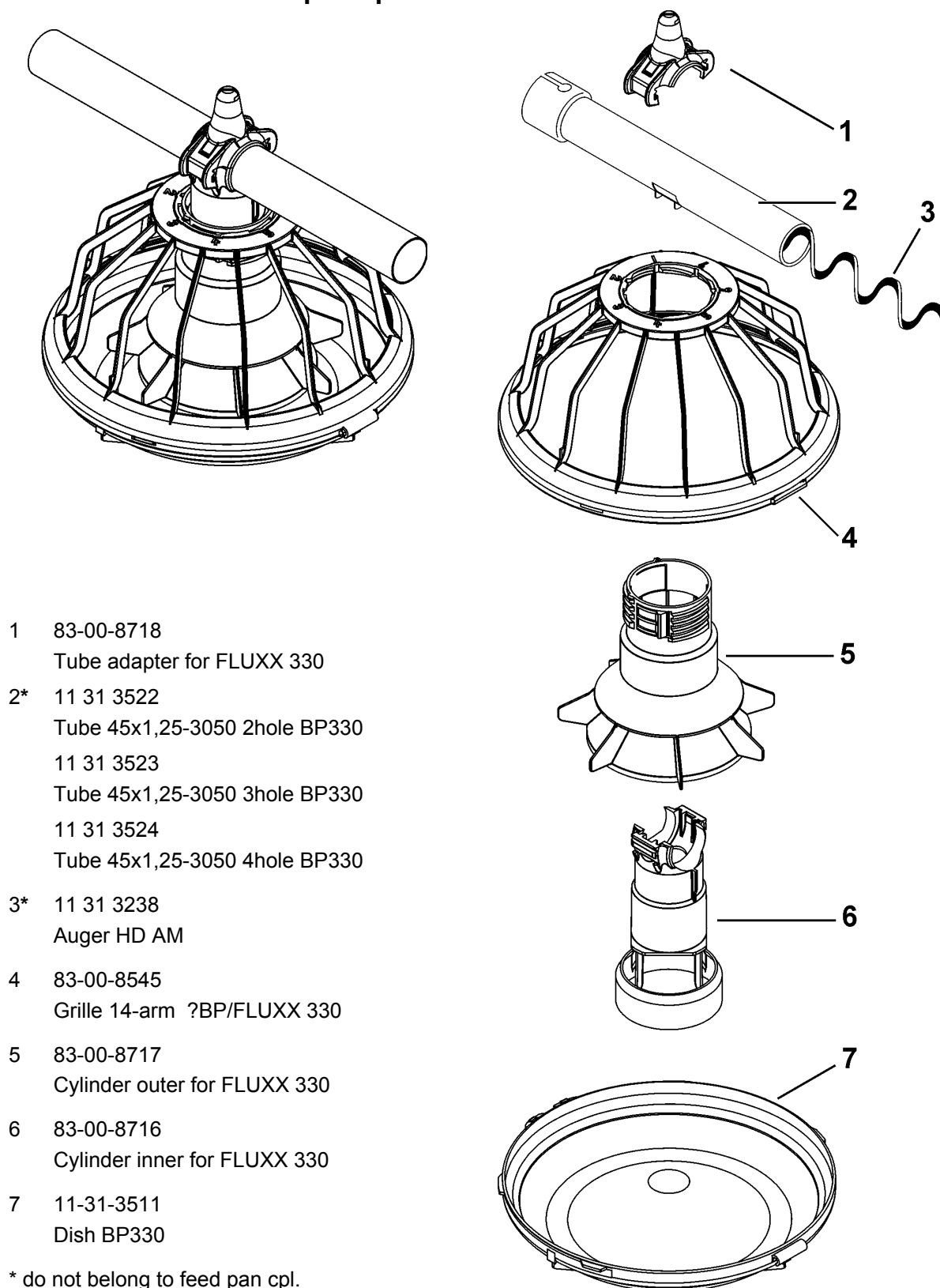


Fig. 741.27

7.3.2 11-31-4710 Feed pan cpl FLUXX 330-14 plus with RPM-dish

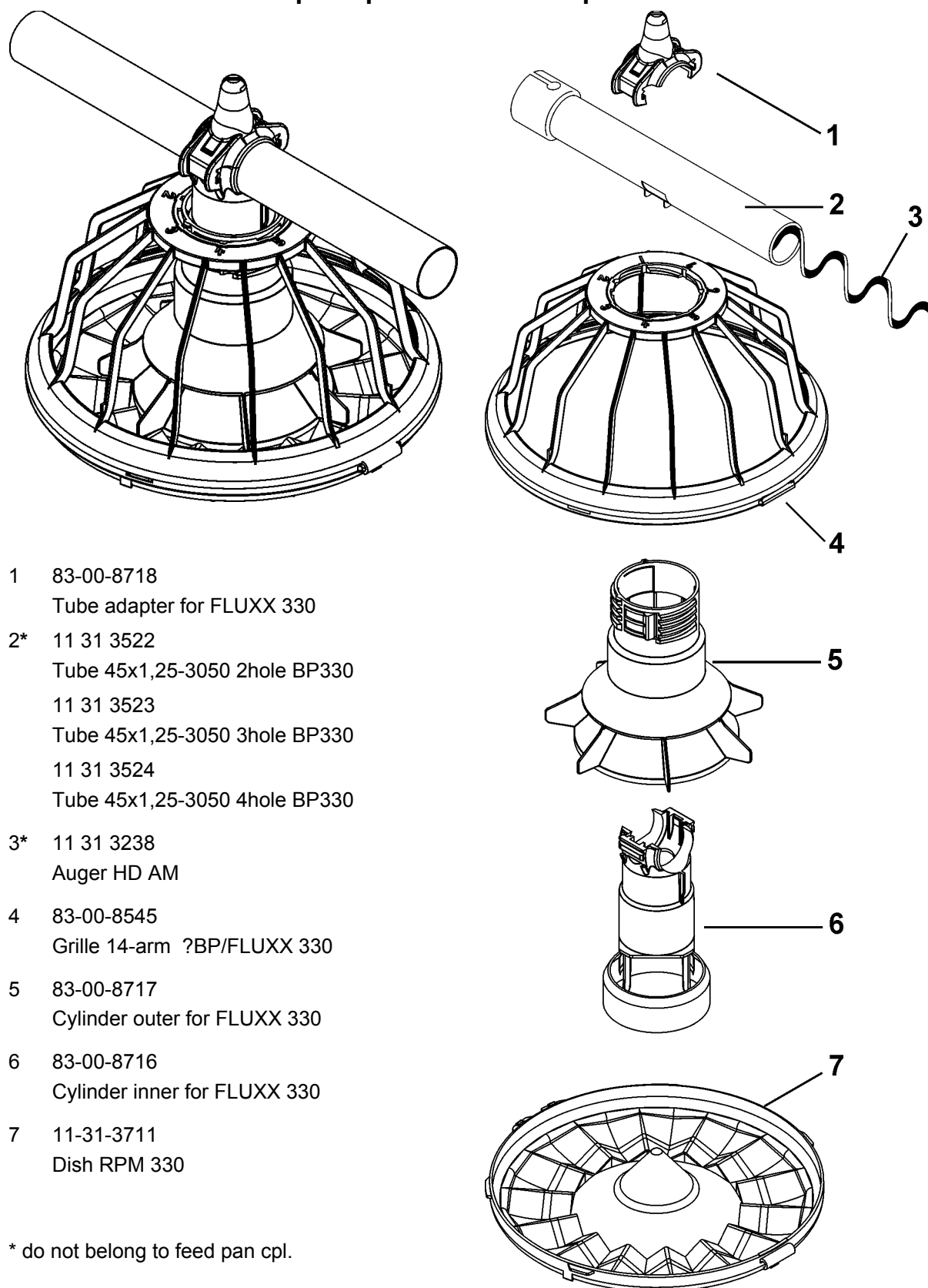


Fig. 741.28

7.3.3 11-31-4750 Feed pan cpl FLUXX 330-5 with BP-dish

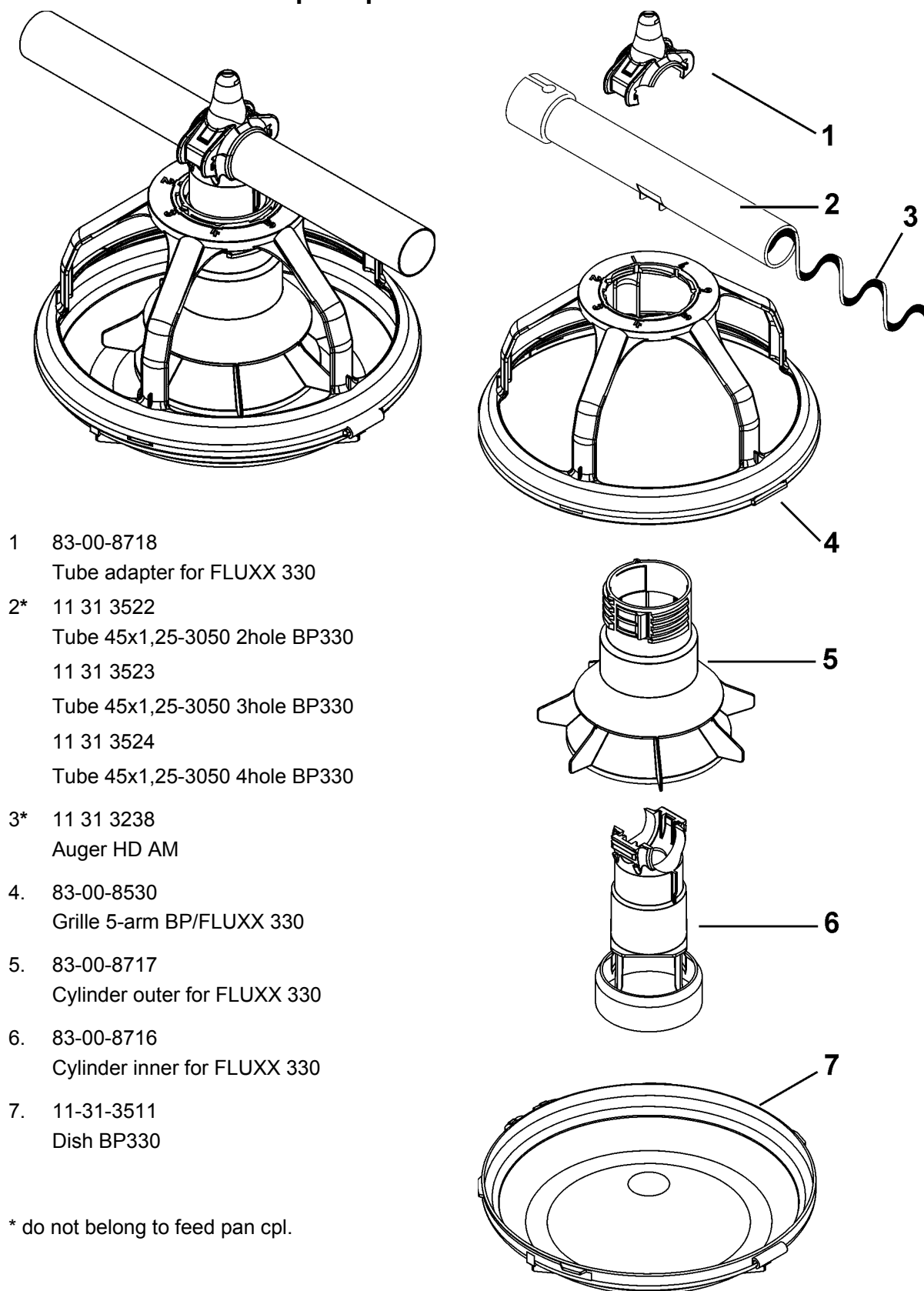
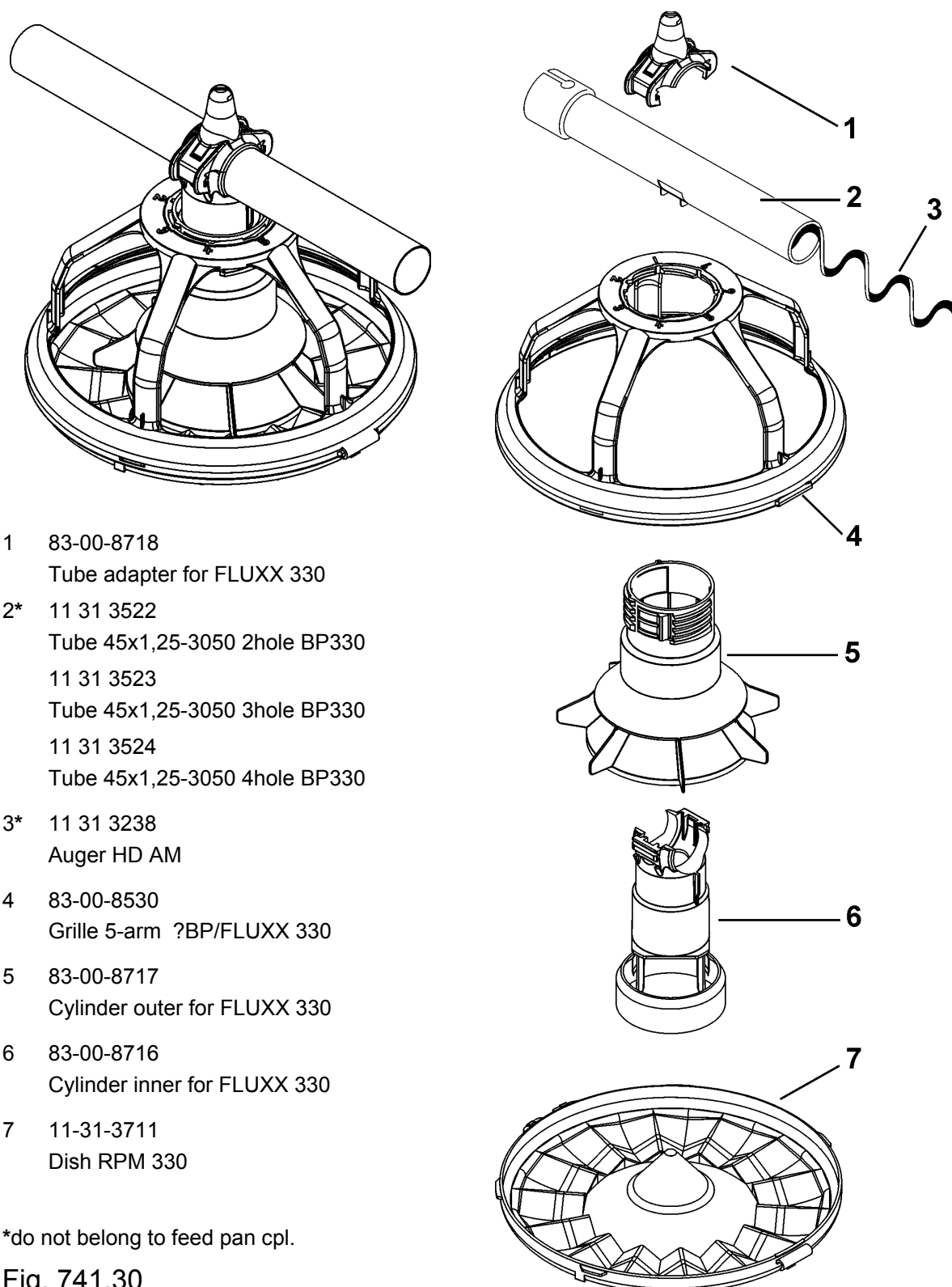


Fig. 741.29

7.3.4 11-31-4760 Feed pan cpl FLUXX 330-5 plus with RPM-pan



7.3.5 11-31-4709 Control pan FLUXX 330-14 w/BP-dish incl sensor AFS

7.3.6 11-31-4719 Control pan FLUXX 330-14 w/RPM-dish incl sensor AFS

7.3.7 11-31-4759 Control pan FLUXX 330-5 w/BP-dish incl sensor AFS

7.3.8 11-31-4769 Control pan FLUXX 330-5 w/RPM-dish incl sensor AFS

- 1 83-00-8718
Tubeadapter for FLUXX 330
- 2* 11 31 3522
Tube 45x1,25-3050 2hole BP330
- 11 31 3523
Tube 45x1,25-3050 3hole BP330
- 11 31 3524
Tube 45x1,25-3050 4hole BP330
- 3* 11 31 3238
Auger HD AM
- 4 83-00-8530
Grille 5-arm BP/FLUXX 330
or:
83-00-8545
Grille 14-arm BP/FLUXX 330 (pictured)
- 5 83-00-8717
Cylinder outer for FLUXX 330
- 6 83-00-8779
Cylinder inner for FLUXX 330 for sensor AFS
- 7 91-00-3905
Sensor AFS-01-60sec 90-250V
- 8. 11-31-3711
Dish RPM330
or:
11-31-3511
Dish BP330 (pictured)

* do not belong to feed pan cpl.

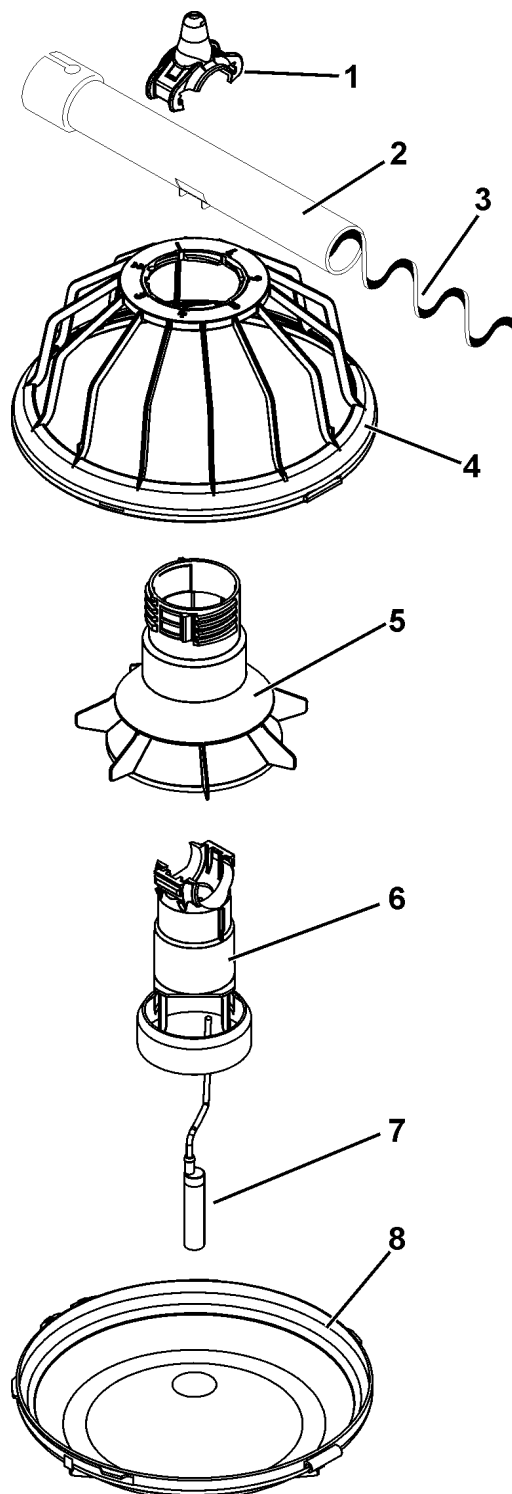
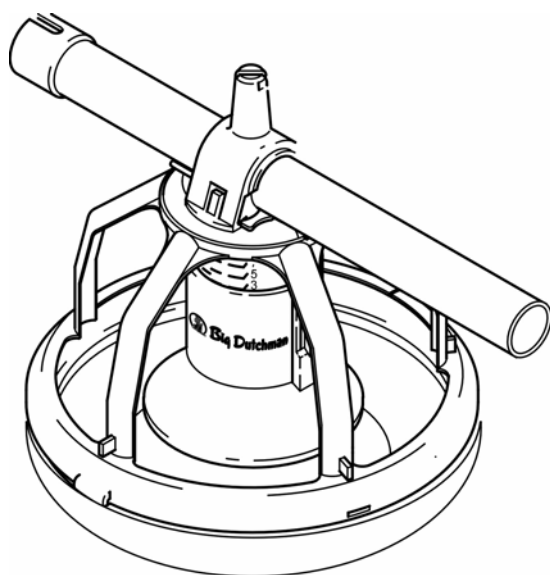


Fig. 741.31

7.4 Parts lists for Male pan feed and control pans

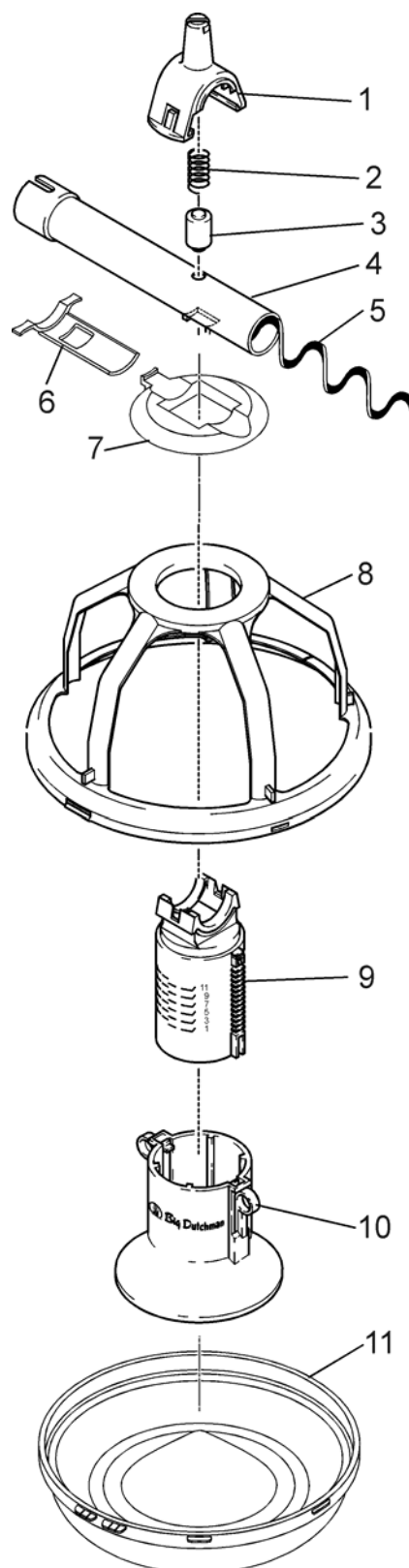
7.4.1 11 31 3585 Feed pan cpl. Male Pan with shut-off and BP dish



- 1 11 31 3587
Tube adapter PA for rigid Male Pan
- 2 11 31 3596
Compression spring D 207 J 01
- 3 11 31 3597
Holding pin for tube adapter rigidly mounted
- 4* 11 03 3723
Tube 45x1,25-3050 3hole Male-Pan
11 03 3722
Tube 45x1,25-3050 2hole Male-Pan
- 5* 11 31 3238
Auger HD AM
- 6 11 31 3536
Slide shut off BP/MP330
- 7 83 00 0130
Guide ring for shut off Male Pan
- 8 11 31 3562
Grille MP330
- 9 Cylinder inner for Male Pan with shut off
- 10 11 31 3514
Cylinder outer for "BP/MP/RPM330/MalePan
- 11 11 31 3511
Dish BP330

* do not belong to feed pan cpl.

Fig. 741.32



7.4.2 11 31 3588 Control pan cpl. Male Pan with shut-off and BP dish

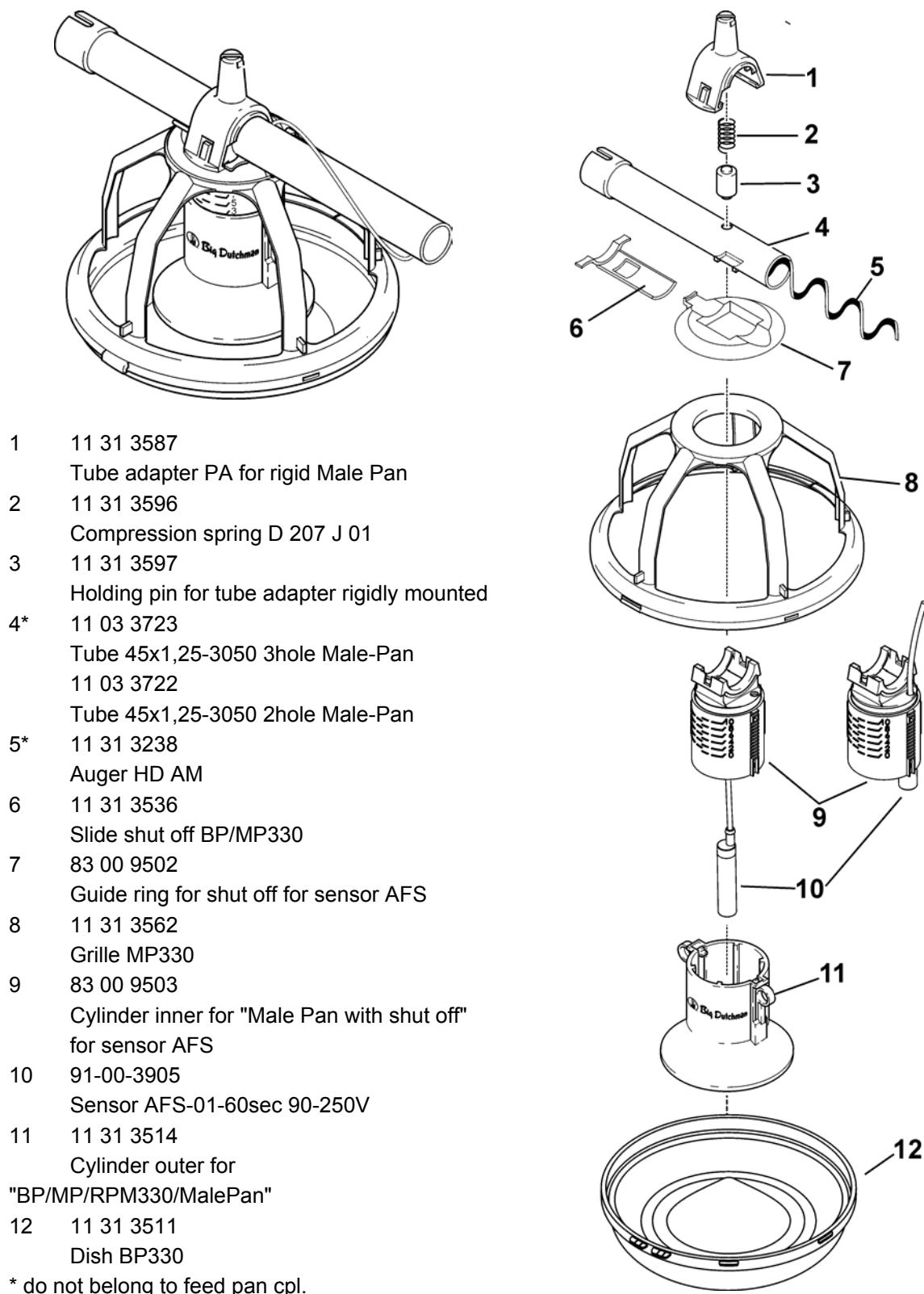


Fig. 741.33

7.4.3 11 31 3590 Feed pan cpl. Male Pan plus with shut-off and RPM dish

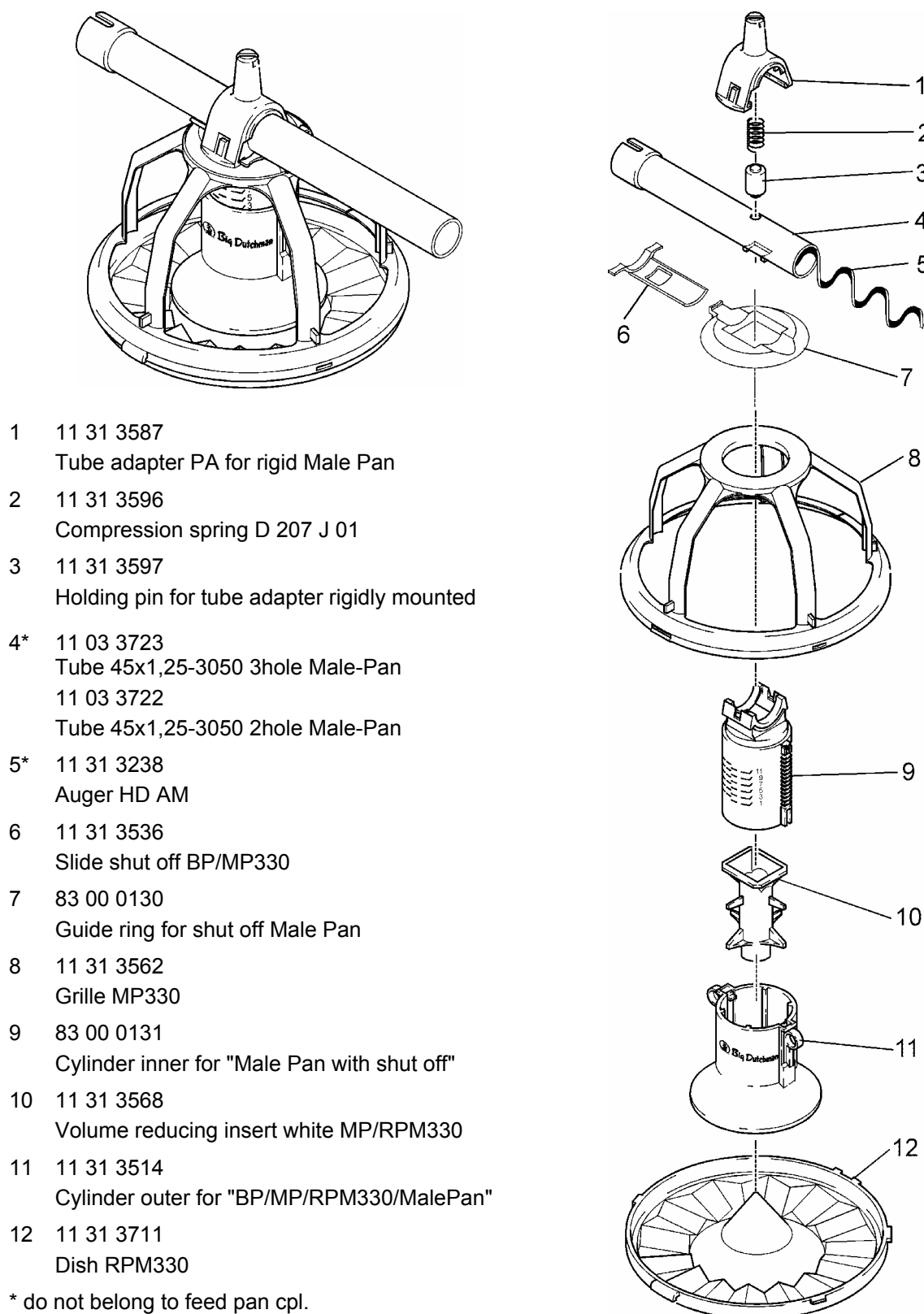


Fig. 741.34

7.4.4 11 31 3595 Control pan cpl Male Pan + w/RPM dish incl sensor AFS

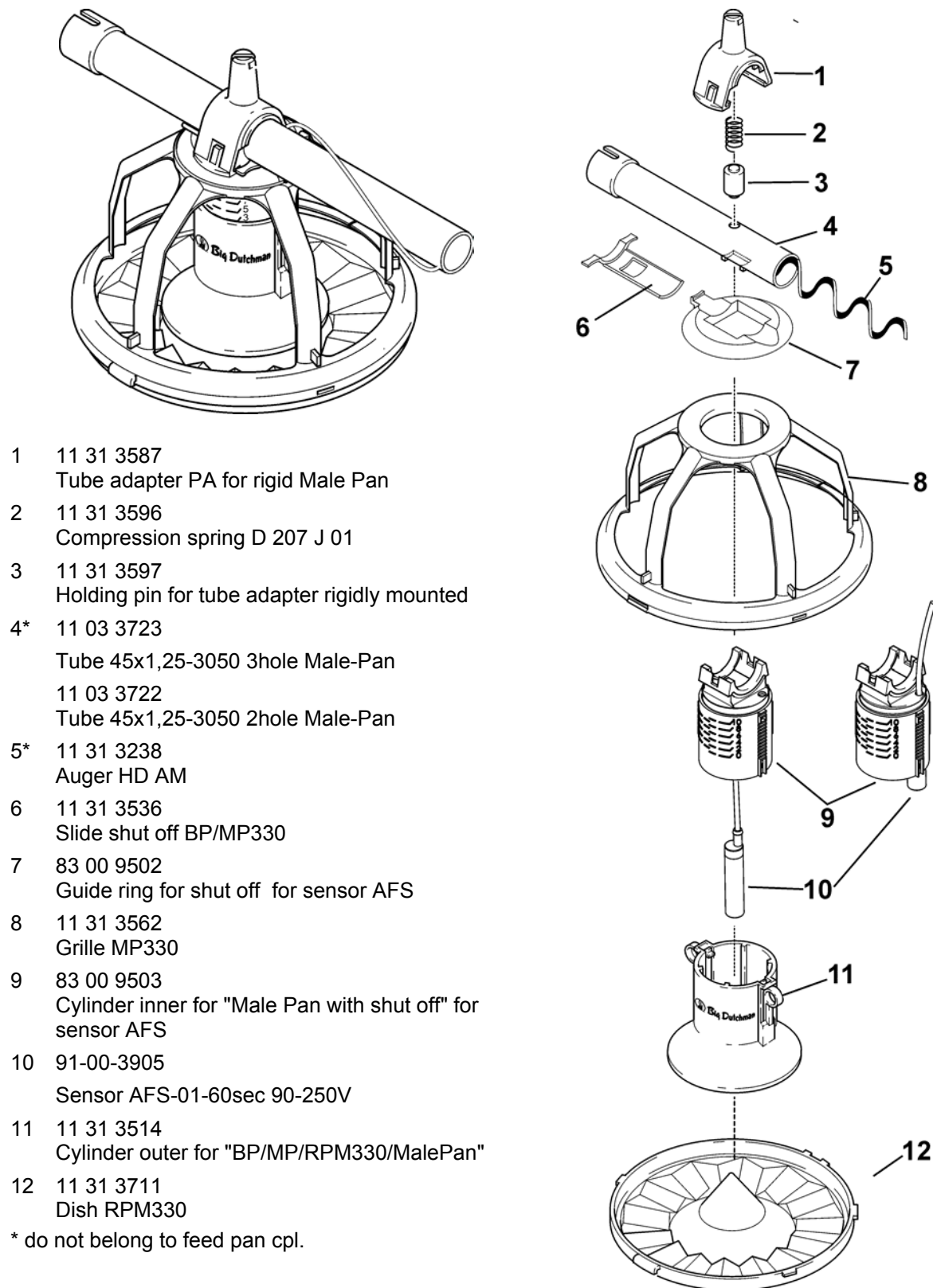


Fig. 741.35

8 Parts lists for self feeders

8.1 Self feeder 30 l, Empa 2, Code No. 20 00 3930

This self feeder is designed for manual or restricted feeding of adult males from 2.5 to 4.5 kg live weight in broiler breeder production houses (laying)

Turkeys of 5 to 6 weeks of age with a live weight of 2 to 2.5 kg can be fed up to their maximum weight as well.

Recommended number of birds per Empa 2 self feeder:

	Birds / feeder	Feeding method
Broiler breeder males production phase from week 16/18 onwards	16	restricted
Turkeys up to 12 kg	51	ad libitum
Turkeys up to 20 kg	33	ad libitum

In case of higher bird weights for growing / production, the number of birds per feeder has to be reduced.

Technical data

Contents approx.	30 l
Pan diameter:	510 mm
Height of pan rim:	120 mm

20 00 3930 Self feeder 30 l, Empa 2

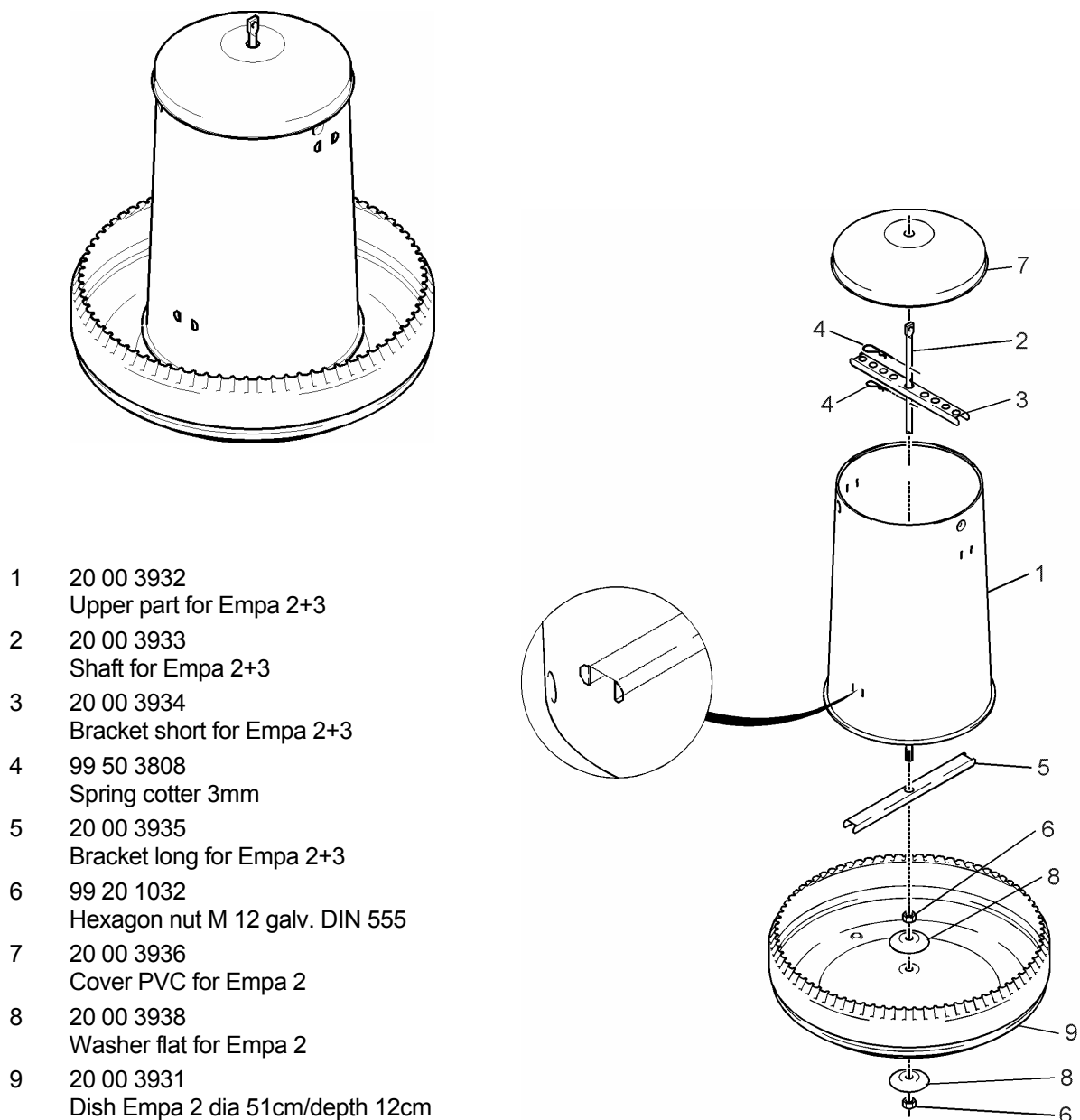


Fig. 741.39



8.2 Self feeder 30 l, Empa 3, Code No. 20 00 3940

Due to its more shallow feed plate with a smaller diameter, this self feeder is particularly suited for layers up to 2.2 kg live weight and for rearing broiler breeder males up to week 16/18.

Recommended number of birds per Empa 3 self feeder:

	Birds / feeder	Feeding method
Broiler breeder males rearing phase up to week 16/18	17	restricted
Layers up to 1.5 kg LW*	104	ad libitum
Layers up to 2.2 kg LW*	92	ad libitum

LW* = live weight

In case of higher bird weights for growing / production, the number of birds per feeder has to be reduced.

Technical data

Contents approx.	30 l
Pan diameter:	375 mm
Height of pan rim:	70 mm

20 00 3940 Self feeder 30 l, Empa 3

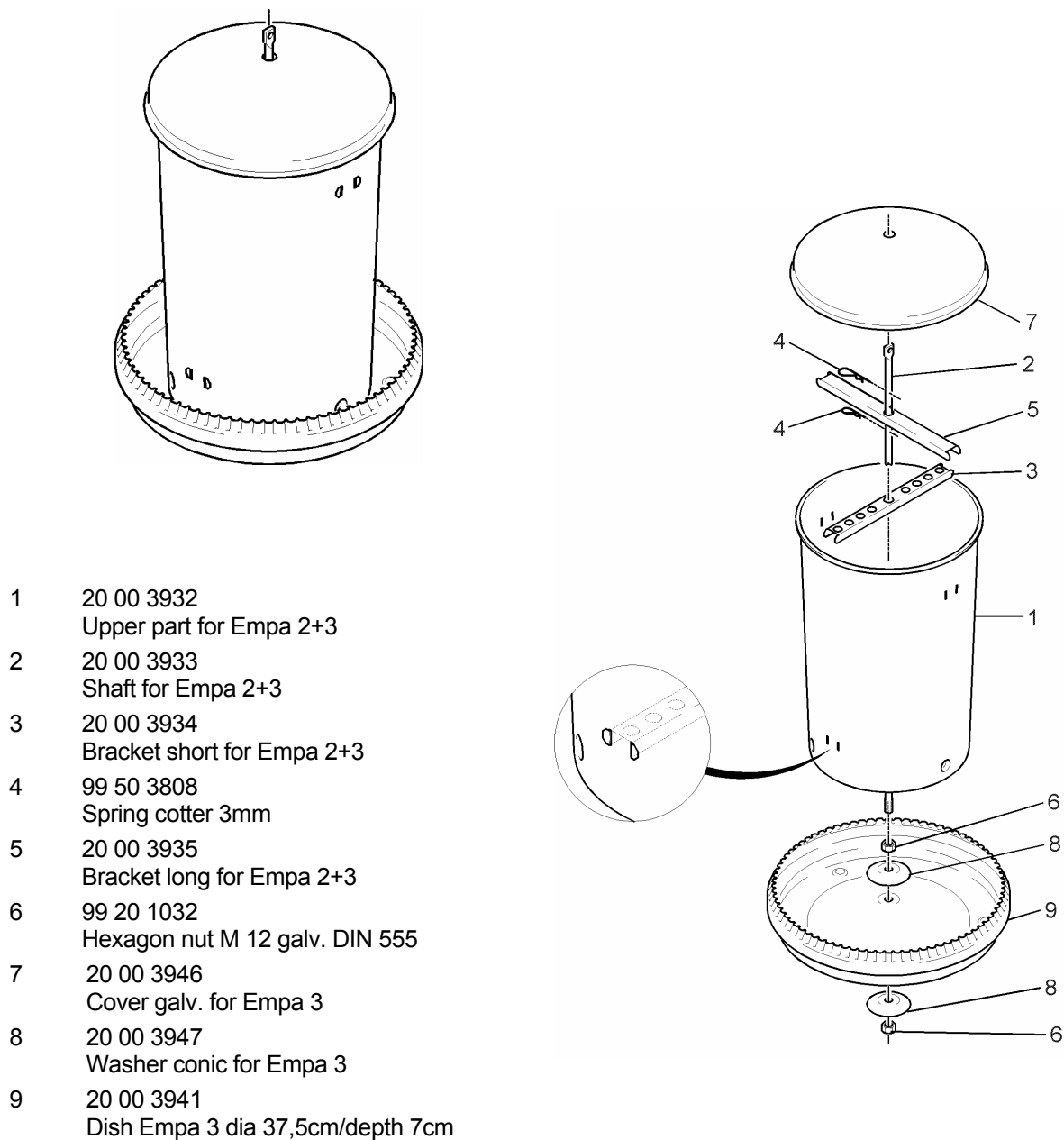


Fig. 741.40



8.3 Self feeder 30 l, Empa 4, Code No. 20 00 3950

The Empa 4 self feeder is designed for manual or restricted feeding of adult males from 2.5 to 4.5 kg live weight in broiler breeder production houses (laying). Turkeys aged 5 to 6 weeks of 2 to 2.5 kg live weight can be fed up to their maximum weight as well.

Recommended number of birds per Empa 4 self feeder:

	Birds / feeder	Feeding method
Broiler breeder males production phase from week 16/18 onwards	16	restricted
Turkeys up to 12 kg LW*	51	ad libitum
Turkeys up to 20 kg LW*	33	ad libitum

LW* = live weight

Due to its shallow feed plate, the Empa 4 self feeder can also be used for layers up to 2.2 kg live weight and for rearing broiler breeder males up to week 16/18.

Recommended number of birds per Empa 4 self feeder:

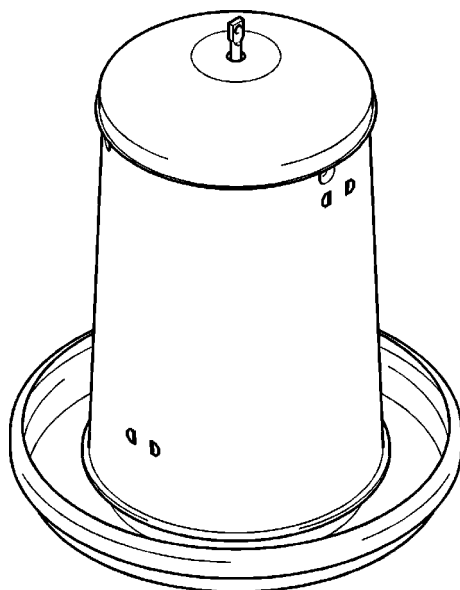
	Birds / feeder	Feeding method
Broiler breeder males rearing phase up to week 16/18	17	restricted
Layers up to 1.5 kg LW*	104	ad libitum
Layers up to 2.2 kg LW*	92	ad libitum

LW* = live weight

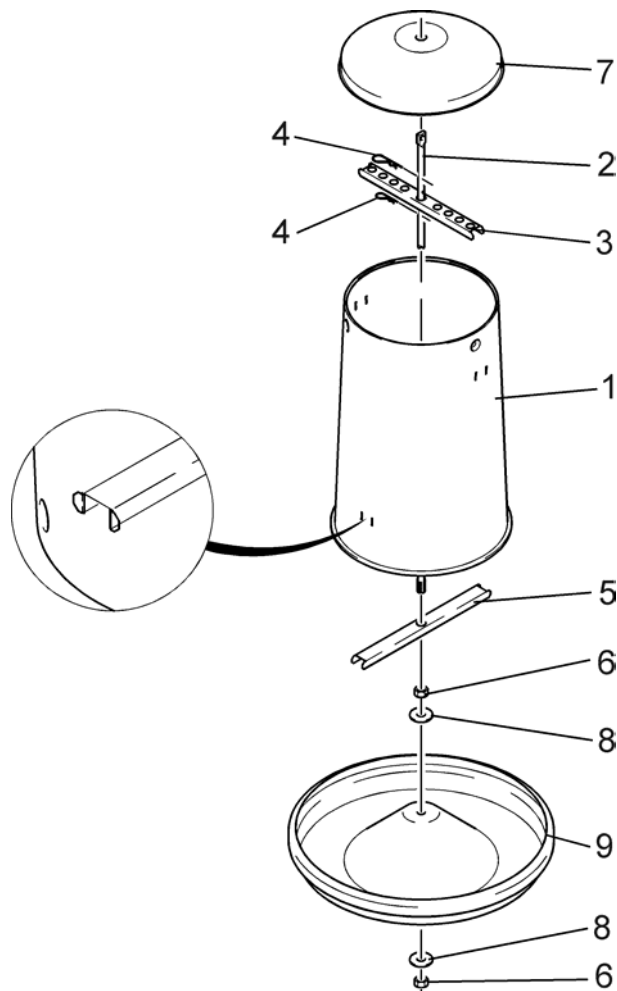
In case of higher bird weights for growing / production, the number of birds per feeder has to be reduced.

Technical data

Contents approx. 30 l
Pan diameter: 410 mm
Height of pan rim: 80 mm

20 00 3950 Self feeder 30 l, Empa 4

- 1 20 00 3932
Upper part for Empa 2+3
- 2 20 00 3933
Shaft for Empa 2+3
- 3 20 00 3934
Bracket short for Empa 2+3
- 4 99 50 3808
Spring cotter 3mm
- 5 20 00 3935
Bracket long for Empa 2+3
- 6 99 20 1032
Hexagon nut M 12 galv. DIN 555
- 7 20 00 3936
Cover PVC for Empa 2
- 8 99 20 1150
Washer A 13,0x37x3,0
- 9 20 00 3941
Dish Empa 4 plastic dia 41cm/depth 8cm



8.4 Self feeder 12 l, Picorett FRC, Code No. 11 31 3080

The Picorett FRC self feeder 12 l is suitable for rearing birds, particularly poults in a poult ring.

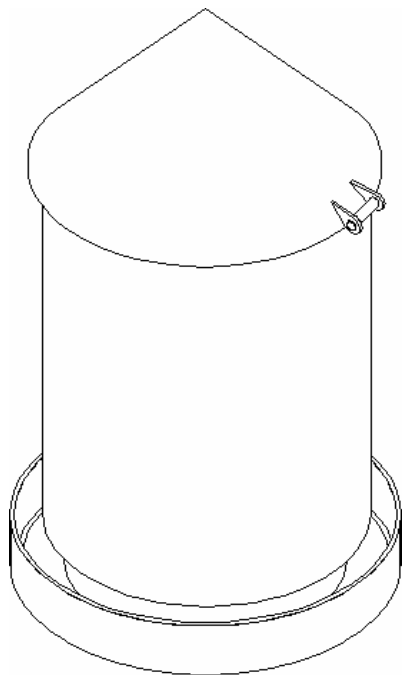
After rearing in the poult ring, the Picorett FRC self feeder 12 l can be connected to the Augermatic system instead of a feed pan and thus filled automatically.

The Picorett FRC self feeder 12 l has the following advantages:

- Less poult losses
The low pan rim even allows day-old poults easy access to the feed.
- Less feed losses
The feed level can be adapted to the birds' age and the flowability of the feed.
- Increased feed conversion
The poults do not stand nor sleep in the pans. The feed does not get soiled. A cover protects the feed against dust, preventing the birds from entering the feed hopper.

Technical data

Contents approx.	12 l
Pan diameter:	360 mm
Height of pan rim:	45 mm
Total height without cover:	280 mm
Total height with cover:	370 mm

11 31 3080 Self feeder 12 l Picorett FRC

- 1 Cover
- 2 Feed bucket
- 3 Adjusting spindle
- 4 Lower part of self feeder
- 5 Plug

Assembly

- Insert square dog point of adjusting spindle (3) into the lower part of the self feeder (4) until it locks into place.
- Screw the feed bucket (2) onto the adjusting spindle (3).
- Fix the joint of the cover (1) to the hinge of the feed bucket (2).
- Insert the plug (5) into the square dog point of the adjusting spindle (3).

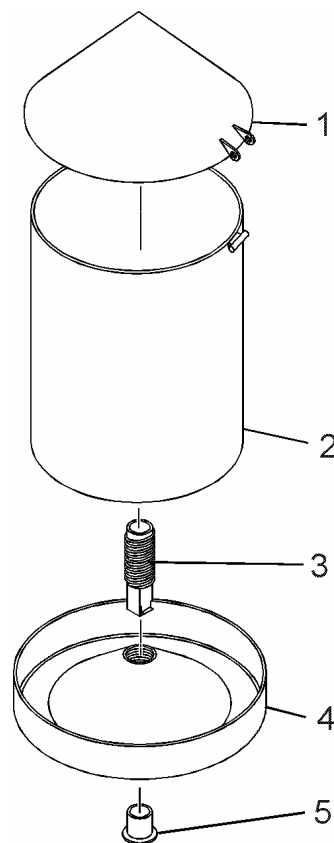


Fig. 741.41

9 Tooling

For the assembly of the Augermatic feeding system we recommend using the following tools:

- 1 (each) cross head screw driver size 2 and 3
- 1 (each) open-ended / ring / socket spanner 8 mm, 10 mm, 13 mm
- 1 (each) open-ended / ring spanner 17 mm and 19 mm
- 1 pair of combination pliers
- 1 pair of side cutters and pair of bolt cutters
- 1 pair of pincers
- 1 (each) sledge hammer 500 g and 250 g
- 1 electric drilling machine (manually operated)
- 1 electric disc grinder
- 1 (each) twist drill dia 6, 8 and 10 mm
- 1 spirit level
- 1 metal cutting saw
- 1 vise-grip wrench 250-350 mm long
- 1 electric screwdriver with fittings for hex head screws M5, M6, M8

10 Notes for mounting

Do not put these instructions aside before reading them. Even if you have already installed similar systems, there may always be things and alterations you do not yet know. Being properly informed will help you to avoid unnecessary work, troubles and abnormal expenses.

The instructions, facts and data contained in this manual have been compiled to cover the various existing types of the Augermatic feeding system.

We therefore request you to select and apply those paragraphs of this manual that are in relation to your specific system.

10.1 Explanation on the lay-out of the assembly instructions

In the table of contents you can find and select the subjects to be treated. The instructions are compiled in a chronological order.

The position numbers used in the text refer to the position of the parts in the drawings and exploded views.

In the mounting instructions the parts are marked with position numbers and an abbreviated description. They also appear, together with the code number and the name, in the parts list.

Indicate the following for ordering spare parts:

- Code No. and description of the spare part
- Invoice No. of original invoice
- In case of electric parts: current supply, e.g. 220/380V - 3 Ph. - 50 Hz.

10.2 Before starting to assemble the system

Before starting to assemble the system, check whether:

- house dimensions, installation drawing and order are corresponding to one another,
- the ventilation, the watering and the lighting system in the house are completely installed.

10.3 Assembly order

Start the assembly at the house walls working your way from the outside to the inside from the outside to the inside so that the inner space may be used for placing your material.

- Install the feed pans without tube adapter.
- Fix the feed pans to the tubes by means of a tube adapter. Distribute these units in the house at the predetermined places. See to it that the bulged tube ends are pointing in the direction of the feed hopper.
- Fix the feed pans and one control pan (as the last but one pan in front of the drive) to the end tube by means of a tube adapter. Distribute one unit per line at the drive side in the house. See to it that the non-bulged tube ends are pointing in the direction of the drive.
- Connect all tubes and the end tube with the feed pans of one line.
- At the feed supply side, install the lower part of the feed hopper to the last tube of the line.
- Install the drive at the other end of the line at the end tube. Fix the sensor to the control pan.
- Insert the auger, pre-tension it and fix it.
- Install the anti-roost wire.
- Place the upper part of the feed hopper on the lower part of the feed hopper.
- Install the suspension system and connect it to the feeder lines.
- Install the anti-roost device with the electric fencer.

10.4 Installing feed pans

	Installing the feed pans and fixing them to the conveying tubes is done in the same order with all different types of feed pans. Feed pans are fixed to the conveying tubes either fixed or swinging freely. The standard method of fixing for Big Pan, Fluxx and Multi Pan is swinging and for Male Pan is fixed. The type of fixing has to be agreed with the customer if it has not yet been determined upon start of installation.
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10.4.1 Fixing the feed pans to the conveying tubes

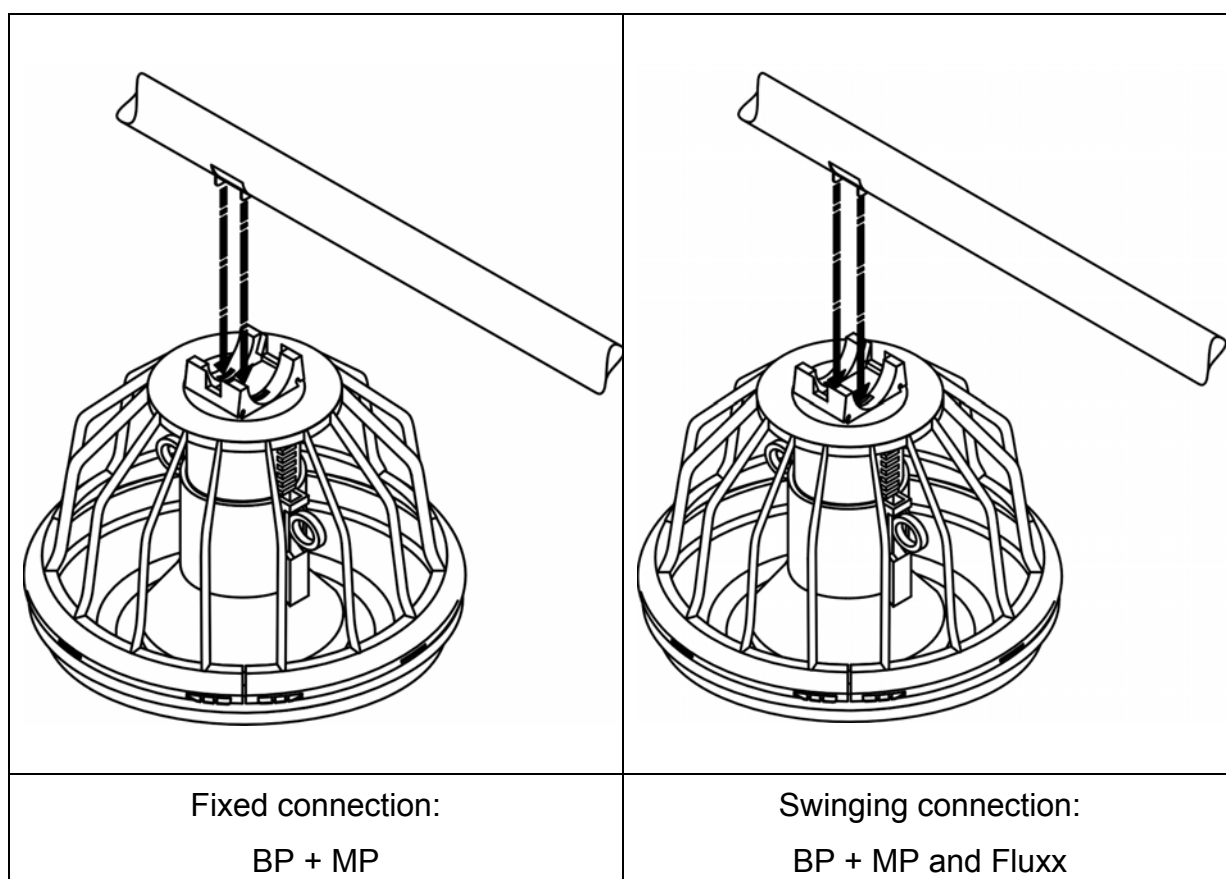


Fig. 741.42

10.4.2 Installing feed pans Big Pan, Multi Pan and Male Pan

10.4.2.1 Assembling the feed pans without shut-off

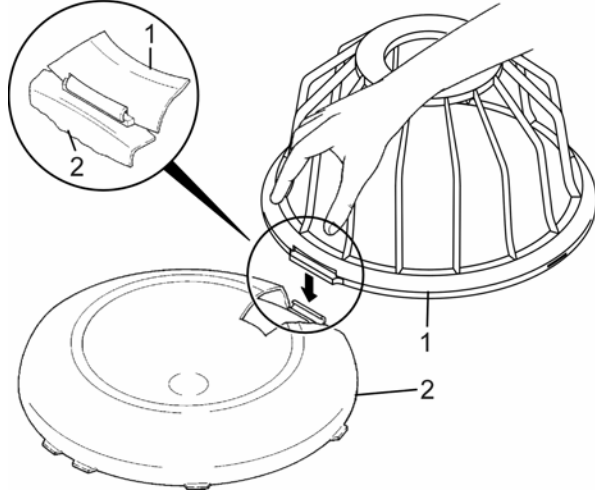
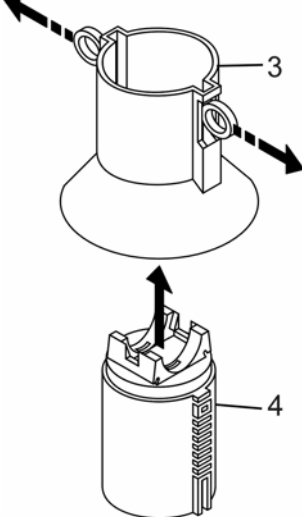
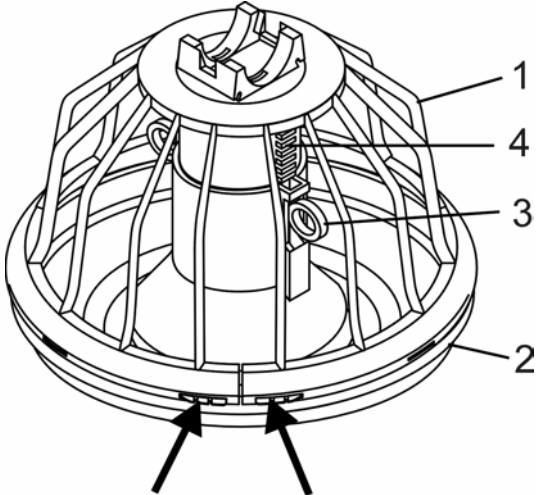
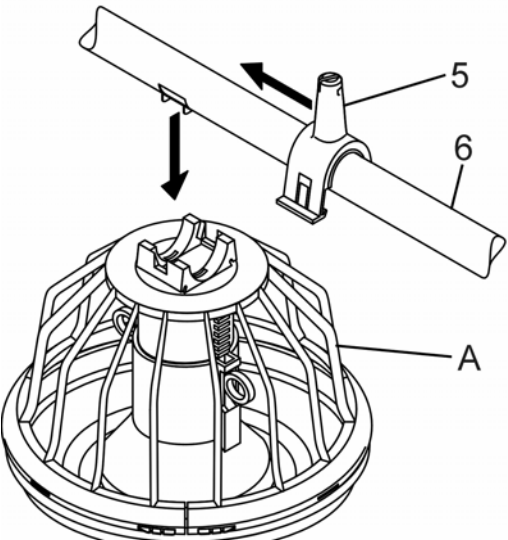
	
Connect grill (1) with plate (2).	Put cylinder outer (3) on cylinder inner (4).
	
Insert cylinder inner and outer (3+4) into plate (1) with grill (2) and lock grill into place in plate (arrow).	Fix the pre-assembled feed pan (A) to the tubes (6) by means of the tube adapter (5).

Fig. 741.43

10.4.2.2 Assembling the feed pans with shut-off

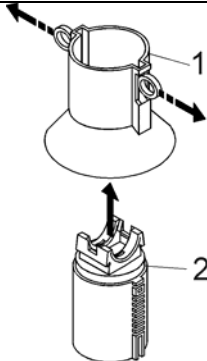
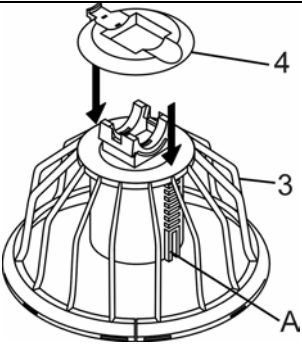
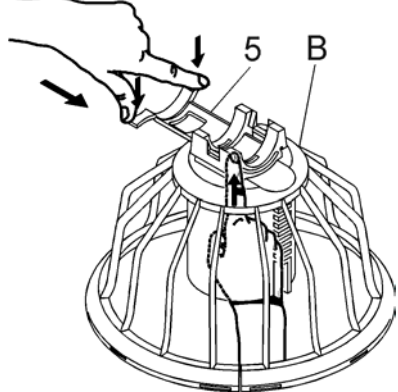
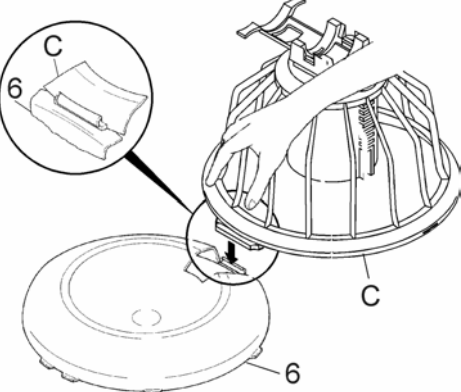
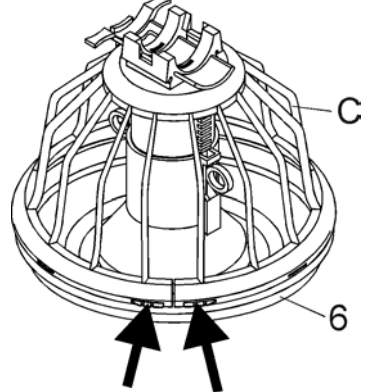
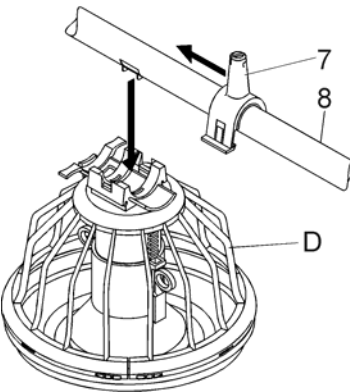
	
Put cylinder outer (1) on cylinder inner (2).	Insert assembled cylinder (A) into the grill (3). Place a guide ring for slide shut-off (4) on top.
	
Insert a slide shut-off (5) into the pre-assembled unit (B).	Connect pre-assembled unit (C) with plate (6).
	
Lock pre-assembled unit (C) into place (arrow) in plate (6).	Fix the pre-assembled feed pan (D) to the tube (8) by means of a tube adapter (7).

Fig. 741.44



10.4.2.3 Assembling the volume reducing insert into the cylinder inner

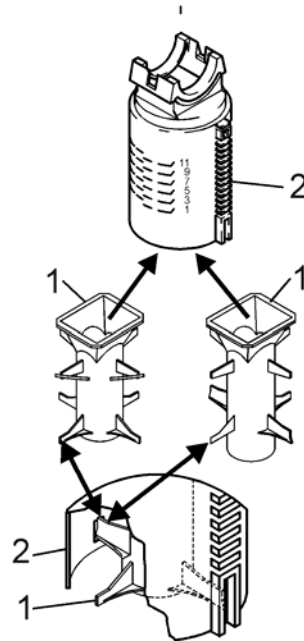


Fig. 741.45

Insert the volume reducing insert (1) into the cylinder inner (2). Make sure that the hooks of the volume reducing insert (1) hook into the seats of the cylinder inner (2).

10.4.2.4 Assembling the feed saving collar

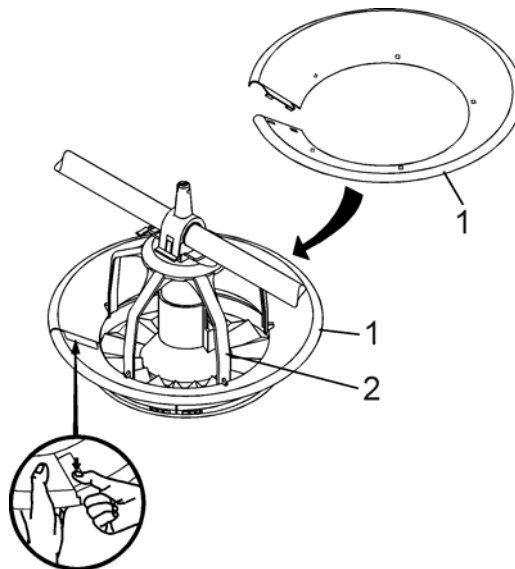


Fig. 741.46

Place a feed saving collar (1) over the grill (2) of the feed pan. Make sure that the openings of the feed saving collar (1) are seated in the hooks of the grill (2) and close the lock.

10.4.2.5 Installing the Male Pan to the tube

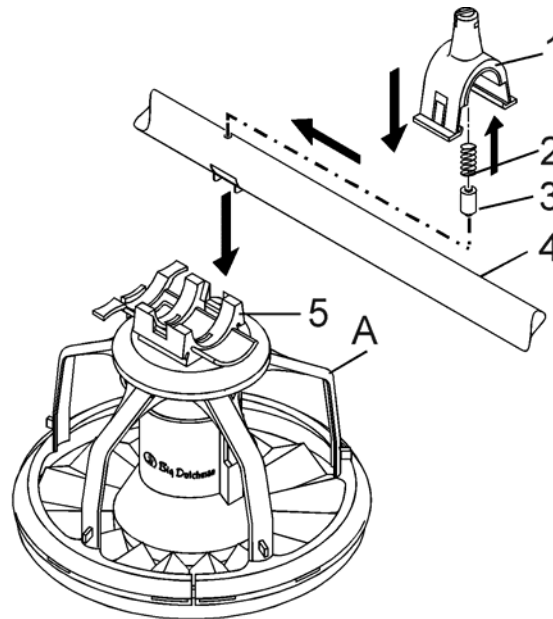


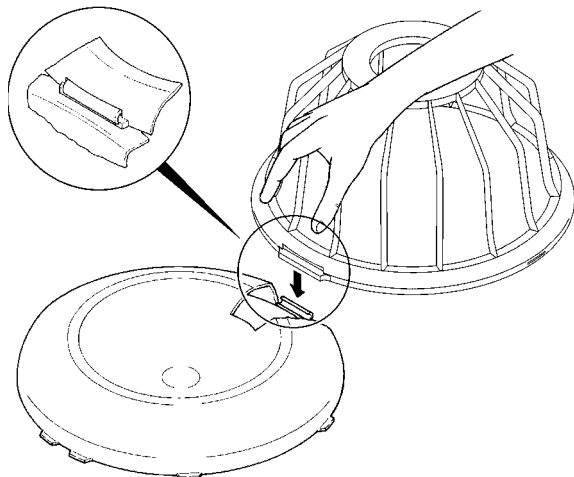
Fig. 741.47

- Place a tube (4) on the cylinder inner (5) of the pre-assembled feed pan (A). Make sure the feed pan (A) is fixed swinging. See point: Fixing the feed pans to the conveying tubes).
- Insert a support bolt for tube adapter (3) and a pressure spring (4) into the tube adapter (5).
- Push the tube adapter (5) with support bolt for tube adapter (3) and pressure spring (4) on the tube (4) and insert it into the tube adapter (5) of the feed pan (A). Make sure the support bolt for tube adapter (3) locks into place in the drill hole of the tube (4).

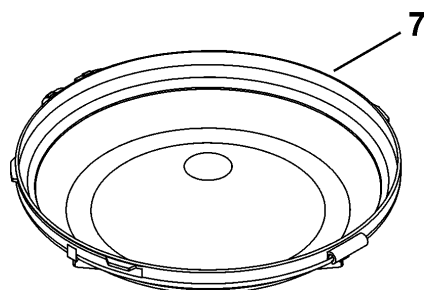
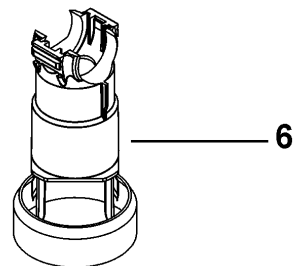
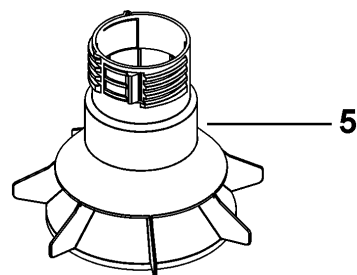
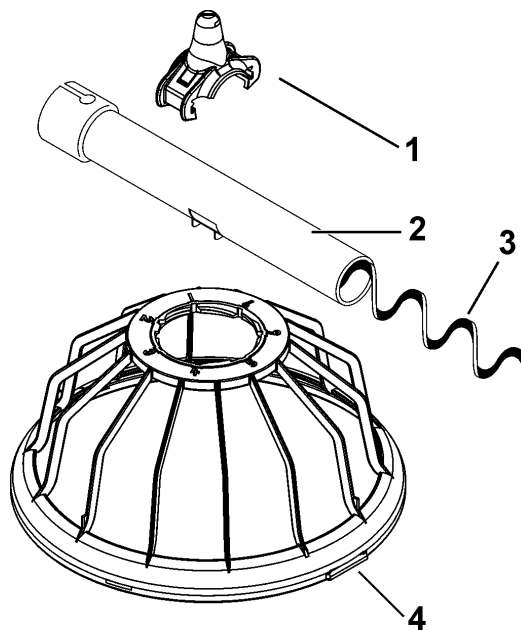
10.4.3 Installing feed pan Fluxx (all types)

The feed pan is pre-assembled.

- Connect grille (4) with dish (7)

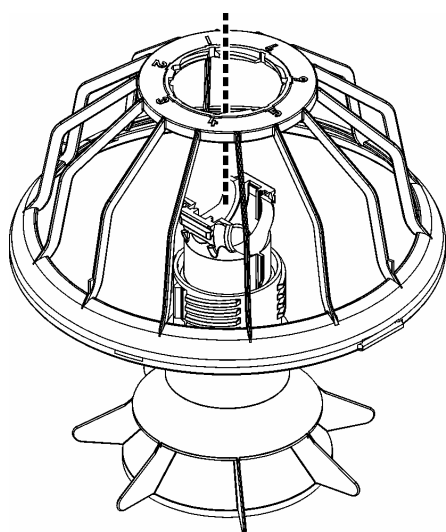


- plug the inner (6) and outer Cylinder (5) together
- Push both cylinders in the grille (4) from underneath and lock grill and pan.



See also chapter 10.4.2

„Assembly of feed pans Big Pan,
Multi Pan and Male Pan.“



- Connect the pre-assembled feed pan with the tube adaptor (1) to the tube (2).



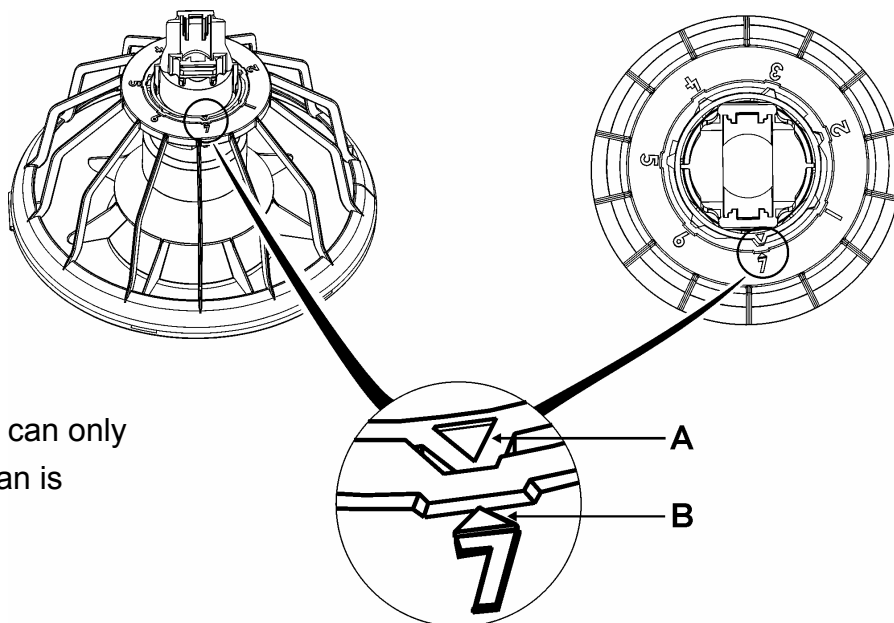
Important information:

There are numbers (1 to 7) on the upper side of the grille (4). They indicate the different feed level positions of the pan. The arrowhead on the outer cylinder (detail A) has to be positioned directly across from the arrowhead on the grille. (detail B, feed level position 7)

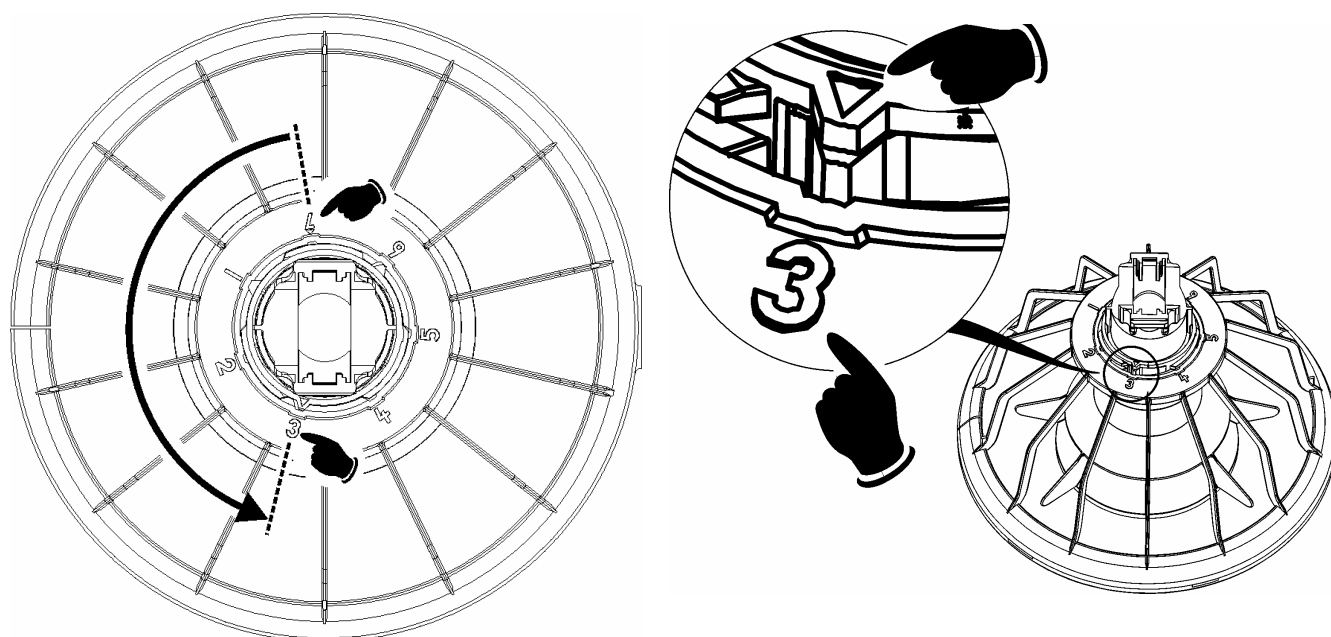
The cylinders are arrested by means of turning the grill in the direction of feed level position 1.

Please note:

The feed level positions can only be changed when the pan is floating.



According to experience, feed level position 3 is the optimum position for the start.



10.5 Feed hopper

	When erecting the feed hopper make sure it is slightly inclined towards the AM drive. This is important so that cleaning water does not stay in the lower part of the feed hopper, thus possibly destroying the bearing of the tension shaft. Only one feed hopper (5) is required for both tube diameters 45 mm (1) and 50.8 mm (2). A sleeve (3) is used to achieve this. The sleeve (3) is installed as a transition at the Augermatic drive (4) for the tube dia 45 mm (1) and at the feed hopper (5) for the tube dia 47.6 mm or 50.8 mm (2). The sleeve dia 48x1.5-50 long for tube dia 45 and 47.6 Code No. 11 31 3547 and the sleeve 50x2,5-40 for tube dia 45/50,8, Code No. 83 00 4914 are comprised in the volume of delivery of the Augermatic drive.
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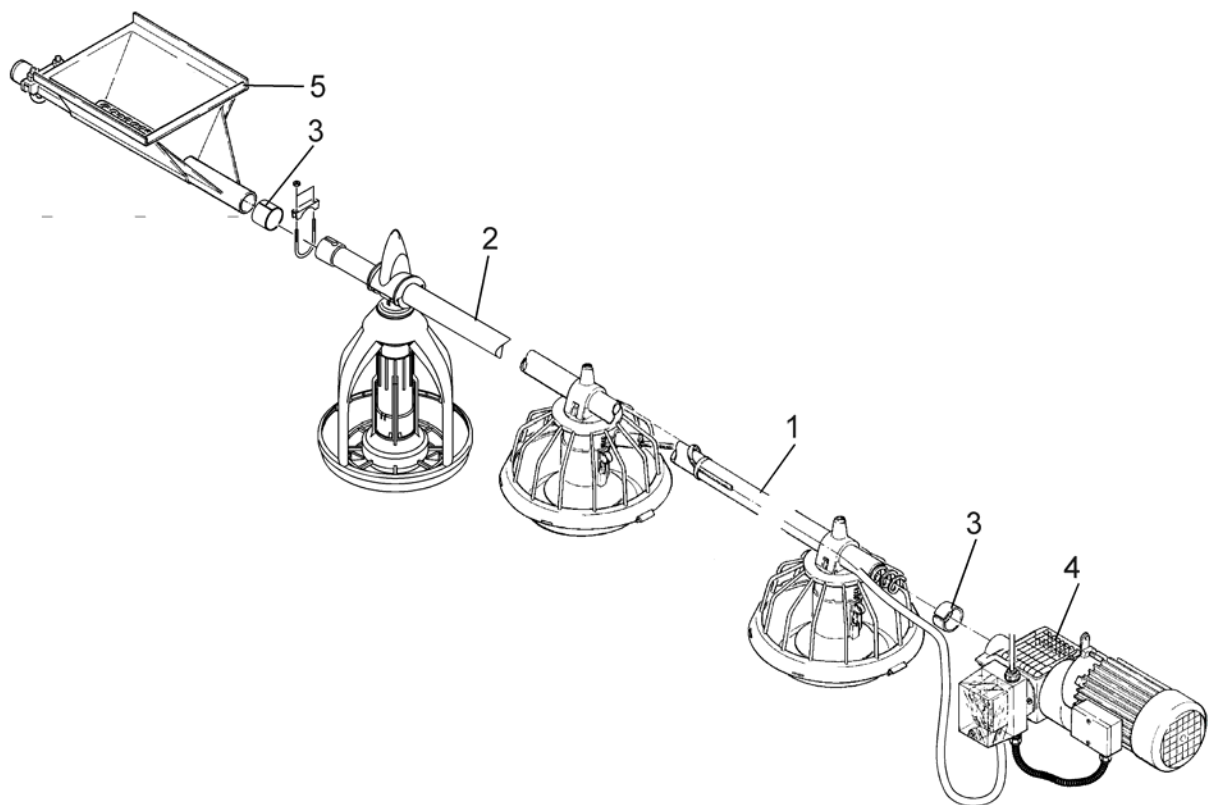


Fig. 741.48

10.5.1 Assembling the upper part on the lower part of the feed hopper

Pos.	Code No.	Description
1		Upper part for feed hopper 115L AM+BP
2		Lower part for feed hopper BP/AM for tube dia 45 and 47.6

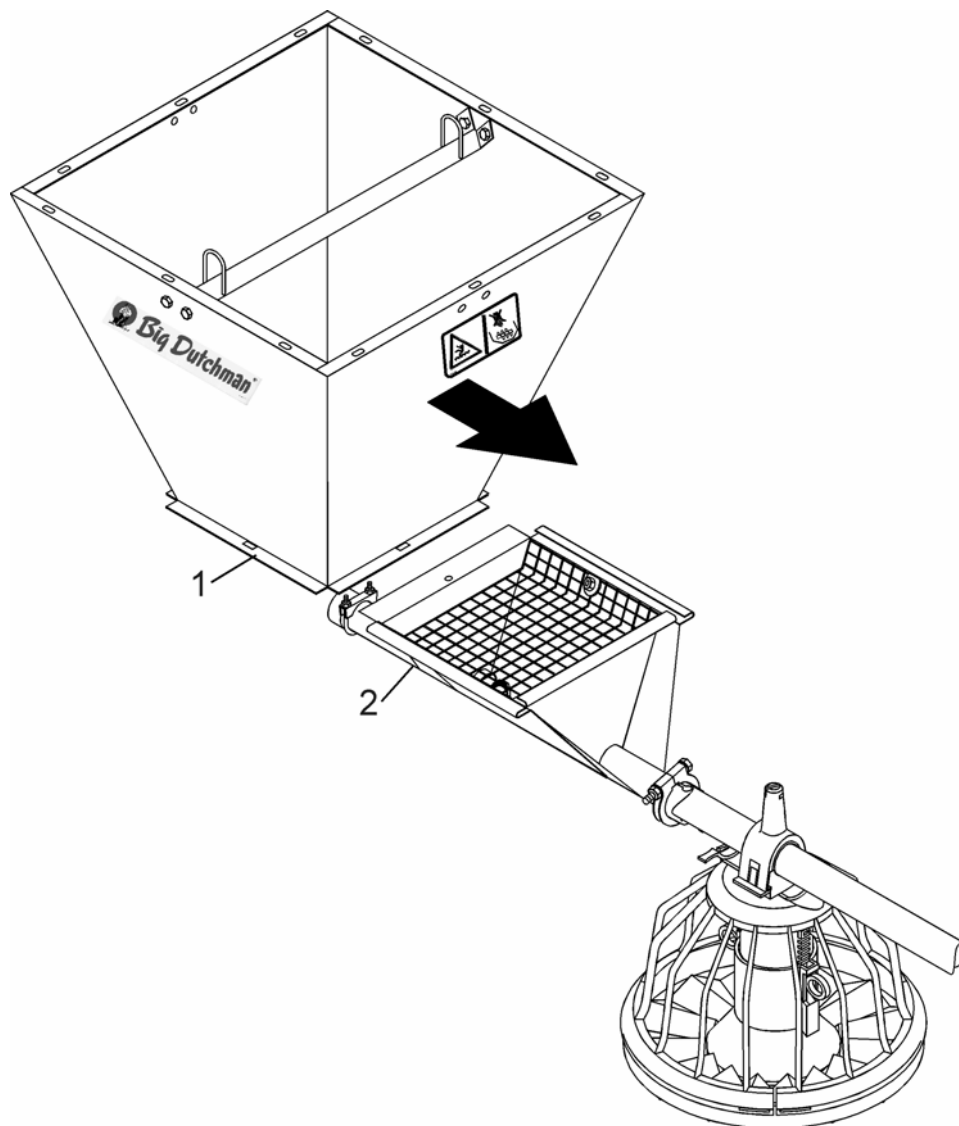


Fig. 741.49

Space for notes:

10.5.2 Feed hopper 115L 1 + 2 lines

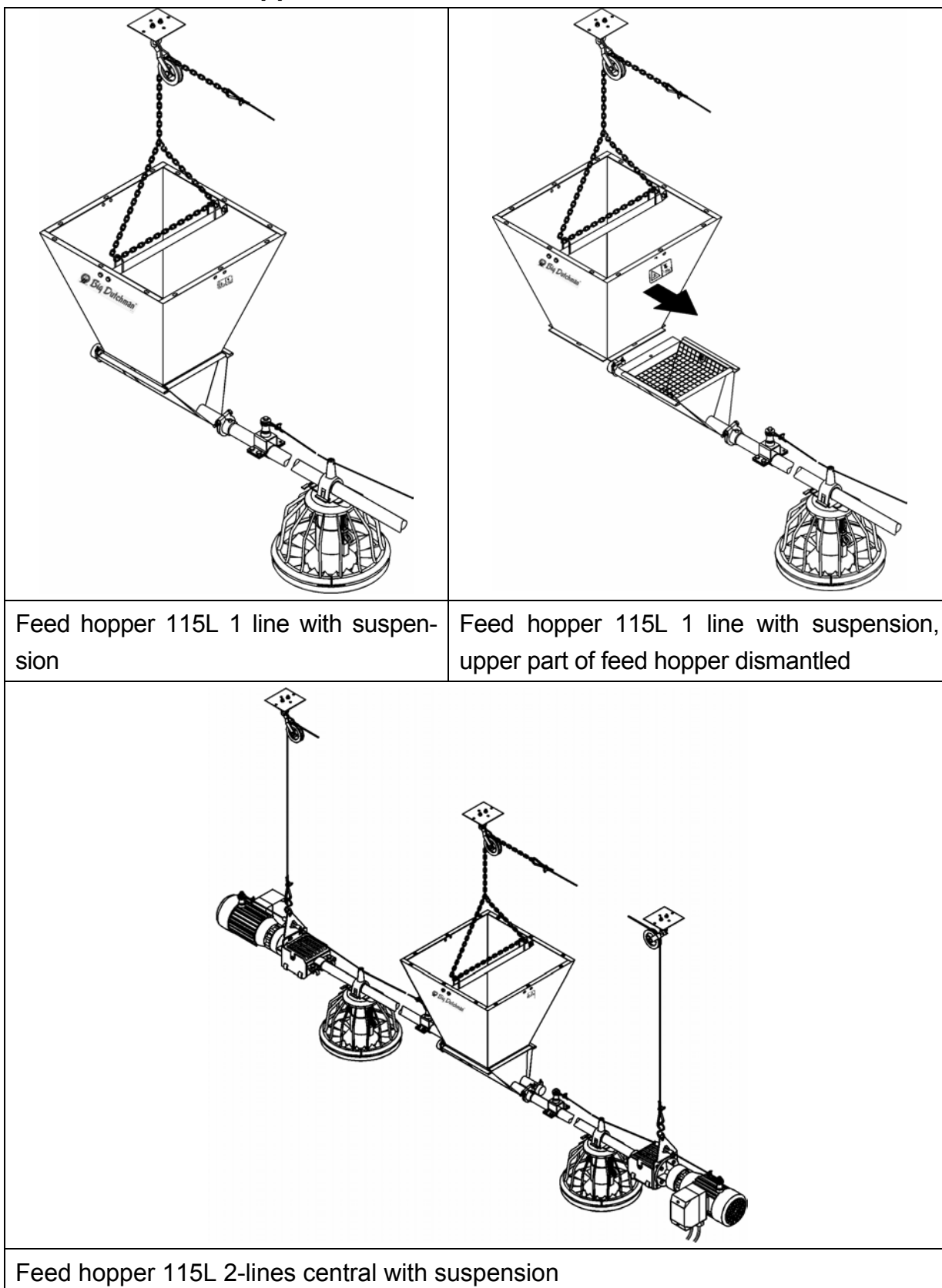


Fig. 741.50

10.5.2.1 Parts list Feed hopper 115L 1 line cpl. for tube dia 45 and 47.6

Pos.	Code No.	Description
	11 31 3540	Hopper 115l 1line cpl. BP/AM for tube dia 45 and 47,6
1	11 31 1311	Upper part for hopper 115l AM+BP
2	11 31 1304	Traverse f/suspension Hopper AM+BP
3	11 31 3545	Lower part for hopper BP/AM for tube dia 45 and 47,6
4	99 10 1067	Hexagon head screw M 6x 16 DIN 558 galv.
5	99 50 1147	Washer B 6,4 DIN 125 galv.
6	99 20 1043	Self locking counter nut M 6 DIN 985 6 galv.
	11 31 1315	Guard wire mesh cpl. for lower part of hopper BP/AM consists of Pos. 7 to 9
7	11 31 1314	Guard wire mesh for Lower part of hopper BP/AM
8	99 10 1602	Mushroom head square neck bolt M 6x 16 DIN 603 galv
9	99 10 3953	Washer flat 6,4x30x1,5 galv
10	99 50 1420	U bolt cadm. cpl. 8x25/W52/H69 Pipe 2"
11	11 31 3238	Auger HD AM
12	11 05 1082	Tension shaft cpl. 19mm AM w/Seeger ring + bearing housing
13	11 31 3547	Sleeve 48x1,5 40 for tube dia 45/47,6
	83 00 4914	Sleeve 50x2,5-40 for tube dia 45/50,8
14		Tube d45 Tube d50.8
15	11 31 1155	End anchor cpl. anti roost AM
16	99 50 1260	Wire rope 2mm galv
17	99 50 0014	Cable clamp 3mm 1/8" galv DIN 741
18	99 50 0003	Ship chain galv 5mm DIN 766
19	99 50 0005	S hook 2" no 60/6x55
20	00 00 3006	Pulley 4 1/8" 105mm plastic
	00 00 3005	Pulley 3 1/2" 89mm
21	99 50 3003	U bolt galv 8x25/W34/H48
22	99 20 1064	Self locking counter nut M 8 DIN 985 6 galv
23	11 31 3581	Bracket for cable winch 340kg and hopper suspended AM/BP Feed hopper suspended AM/BP
24	99 50 1077	Thimble 6mm for cable 5mm DIN 6899
25	99 50 0120	Cable clamp 5mm 3/16" galv
26	99 50 3700	Wire rope 5mm galv
27	00 00 1188	Pictograph: Hopper
28	00 00 1173	Type plate: Big Dutchman 265mm x 50mm

Feed hopper 115L 1 line cpl.

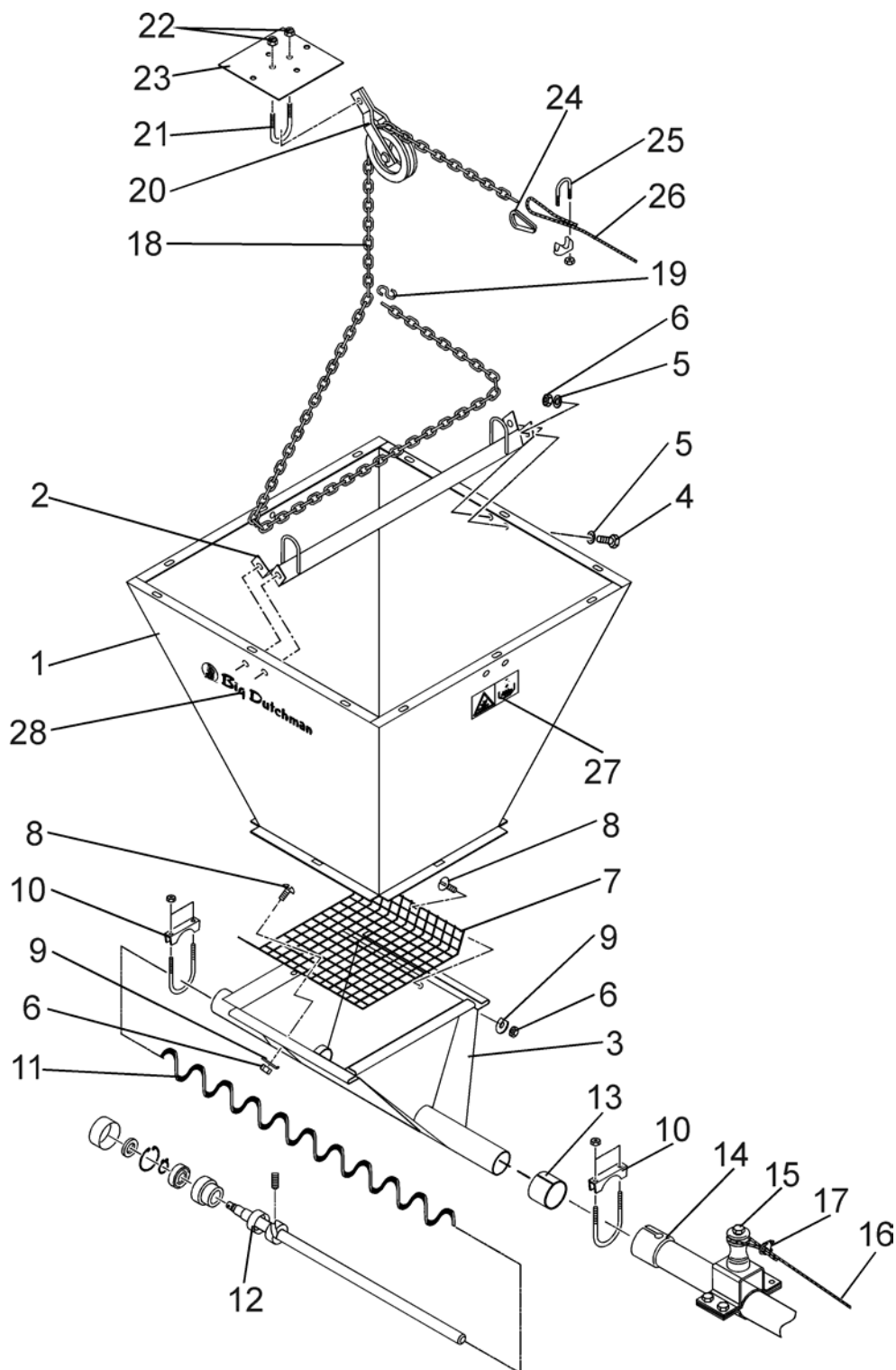


Fig. 741.51



10.5.2.2 Parts list Feed hopper 115L 2l central BP/AM for tube dia 45 and 47.6

Pos.	Code No.	Description
	11 03 3540	Hopper 115l 2lines centric BP/AM for tube Dia 45 and 47,6
1	11 31 1311	Upper part for hopper 115l AM+BP
2	11 31 1304	Traverse f/suspension Hopper AM+BP
3		Lower part for feed hopper BP/AM for tube dia 45 and 47.6, 2 lines
4	99 10 1067	Hexagon head screw M 6x 16 DIN 558 galv
5	99 50 1147	Washer B 6,4 DIN 125 galv
6	99 20 1043	Self locking counter nut M 6 DIN 985 6 galv
	11 31 1315	Guard wire mesh cpl. for lower part of hopper BP/AM consists of Pos. 7 to 9
7	11 31 1314	Guard wire mesh for Lower part of hopper BP/AM
8	99 10 1602	Mushroom head square neck bolt M 6x 16 DIN 603 galv
9	99 10 3953	Washer flat 6,4x30x1,5 galv
10	99 50 1420	U bolt cadm. cpl. 8x25/W52/H69 Pipe 2"
11	11 31 3238	Auger HD AM
12	11 05 1082	Tension shaft cpl. 19mm AM w/Seeger ring + bearing housing
13	11 31 3547	Sleeve 48x1,5 40 for tube dia 45/47,6
	83 00 4914	Sleeve 50x2,5-40 for tube dia 45/50,8
14		Tube d45 Tube d50.8
15	11 31 1155	End anchor cpl. anti roost AM
16	99 50 1260	Wire rope 2mm galv
17	99 50 0014	Cable clamp 3mm 1/8" galv DIN 741
18	99 50 0003	Ship chain galv 5mm DIN 766
19	99 50 0005	S hook 2" no 60/6x55
20	00 00 3006	Pulley 4 1/8" 105mm plastic
	00 00 3005	Pulley 3 1/2" 89mm
21	99 50 3003	U bolt galv 8x25/W34/H48
22	99 20 1064	Self locking counter nut M 8 DIN 985 6 galv
23	11 31 3581	Bracket for cable winch 340kg and hopper suspended AM/BP Feed hopper suspended AM/BP
24	99 50 1077	Thimble 6mm for cable 5mm DIN 6899
25	99 50 0120	Cable clamp 5mm 3/16" galv
26	99 50 3700	Wire rope 5mm galv
27	00 00 1188	Pictograph: Hopper
28	00 00 1173	Type plate: Big Dutchman 265mm x 50mm

Feed hopper 115L 2l central BP/AM for tube dia 45 and 47.6

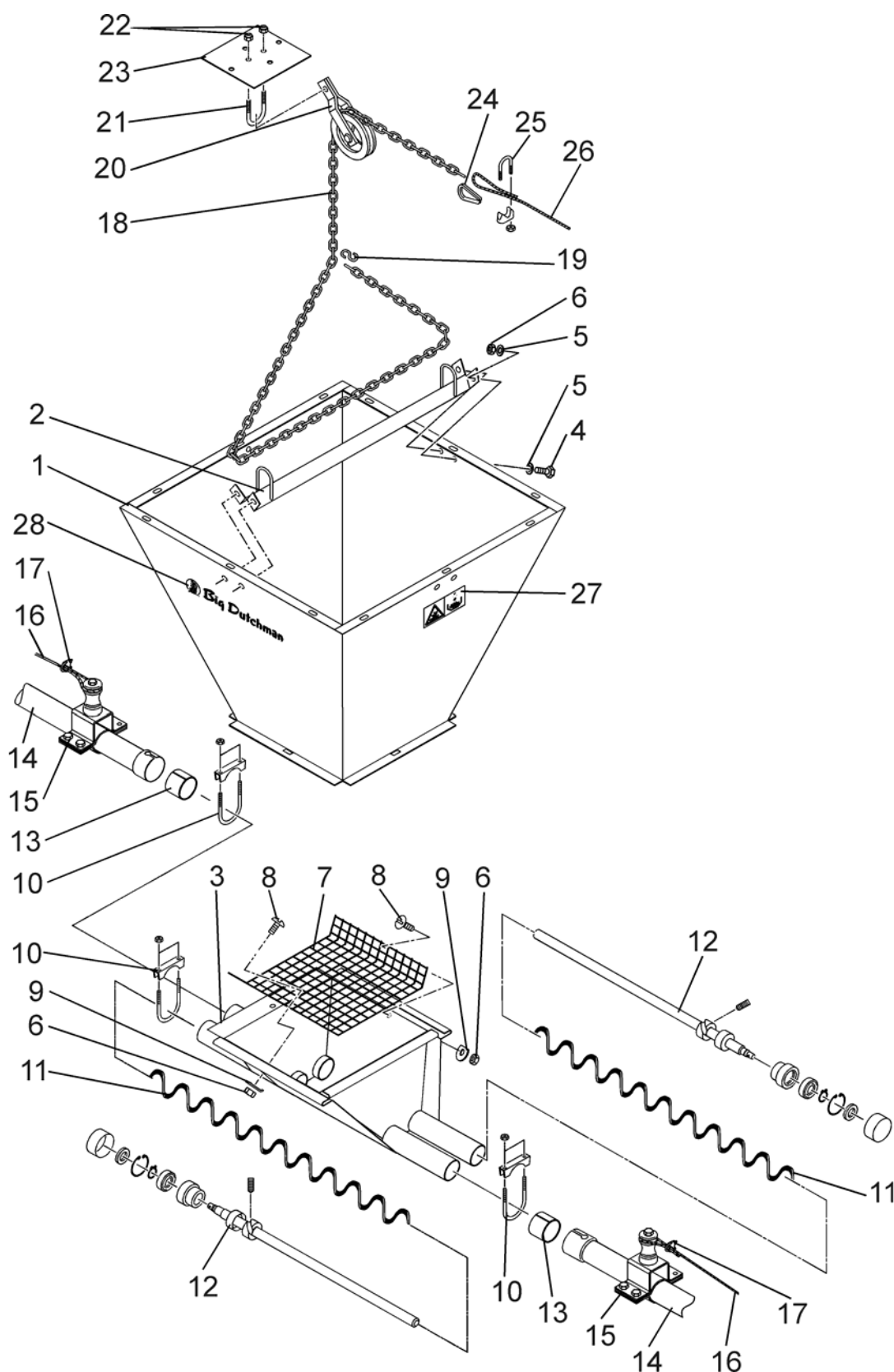


Fig. 741.52

10.6 Connecting the tubes

	Check all tubes for dents and deformations. Do not install damaged tubes. The tubes have one straight and one bulged end (sleeve). All the bulged ends have to point in the direction of the feed hopper. Push all tubes with feed pans on the previous tube up to the limit stop. The last tube of one line may be cut to a suitable size. For this, cutting must be carried out at least 100 mm in front of the last hole. Make sure all tubes with feed pans are in line. The grooves of the tube sleeves all have to point upwards. Install the U-bolts 8x25/W52/ H69 tube 2" and the tube clamps riveted so that there still is a distance of approx. 1 cm to the tube end. The screws of the U-bolts 8x25/W52/ H69 tube 2" and the tube clamps riveted have to point upwards.
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Pos.	Code No.	Description
3	11 03 3721	Tube 45x1,25 3050 1hole Male Pan
4	11 31 3211	Tube clamp riveted cpl.

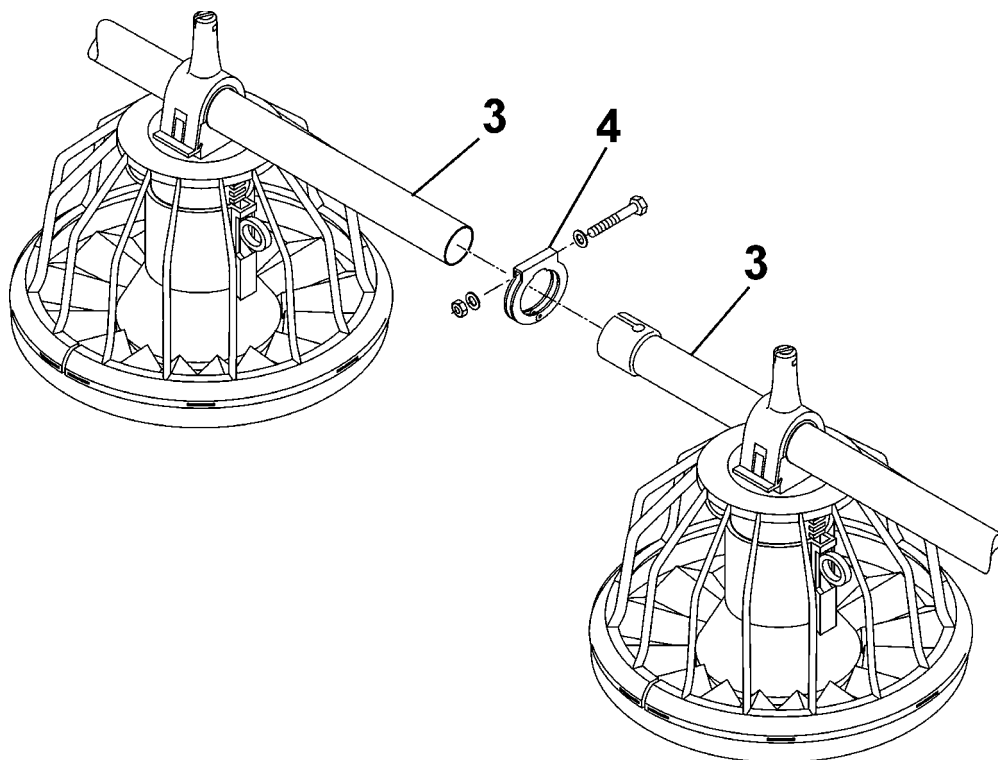


Fig. 741.53

10.7 Installing the feed pans at the end tube

	The control pan with the sensor is always installed as the last but one pan in front of the drive. Check all tubes for dents and deformations. Do not install any damaged tubes. Do not shorten end tubes! Fix feed pans and a control pan to the end tube.
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Pos.	Code No.	Description
1		End tube
2		Feed pan
3		Control pan

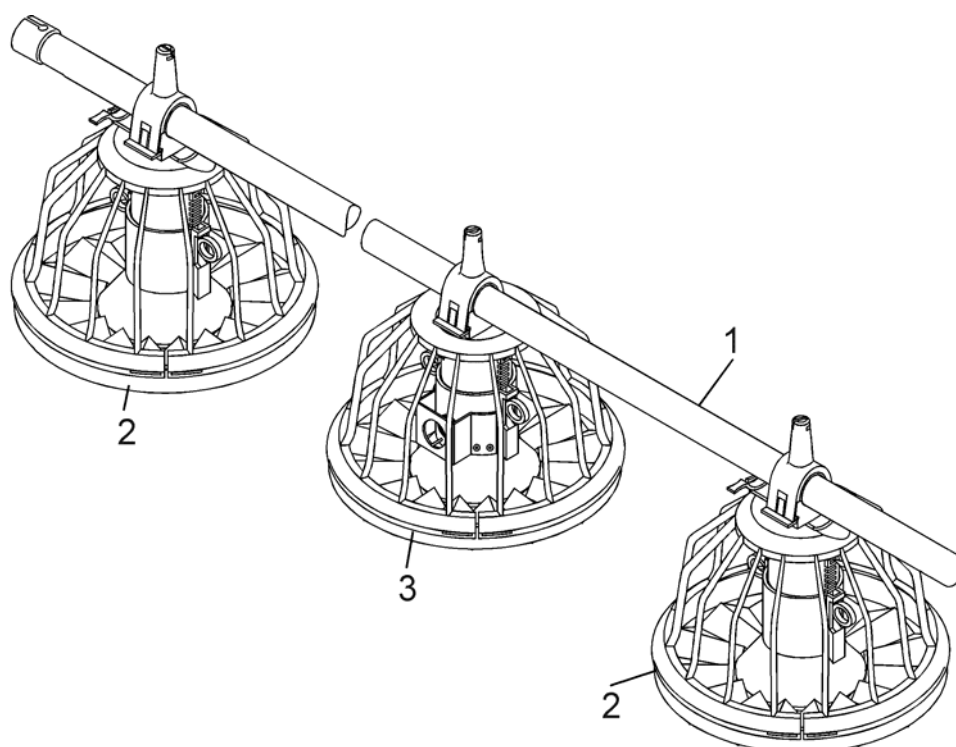


Fig. 741.54

10.8 Tubes for feed pans

10.8.1 Tube 45x1,25-3050 for Big-Pan 330/plus

Pos.	Code No.	Description
1	11 31 3522	Tube 45x1,25 3050 2hole BP330
2	11 31 3523	Tube 45x1,25 3050 3hole BP330
3	11 31 3524	Tube 45x1,25 3050 4hole BP330

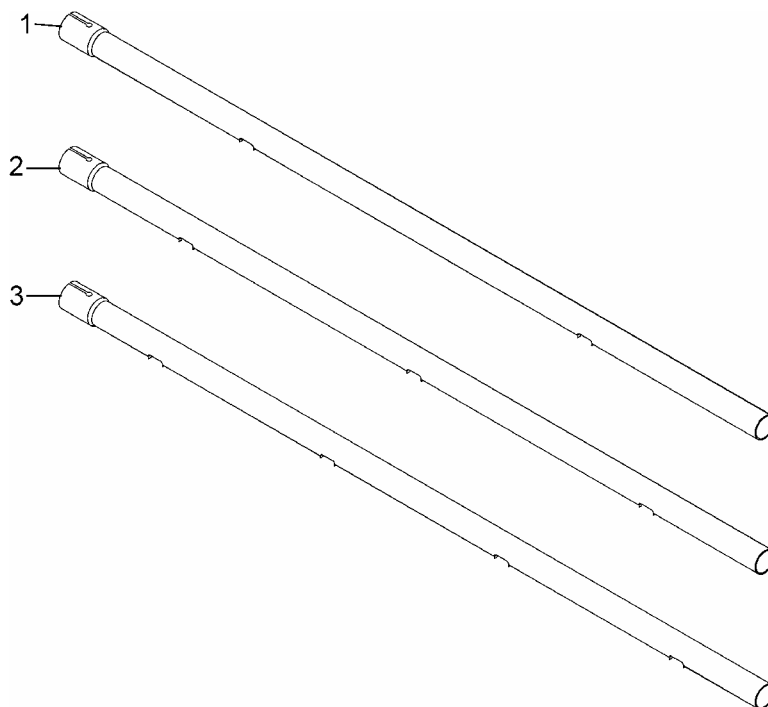
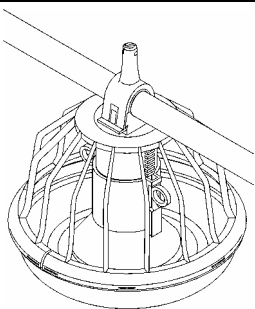
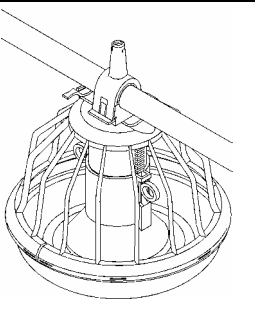
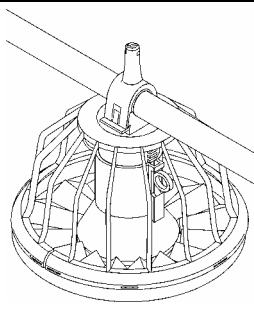
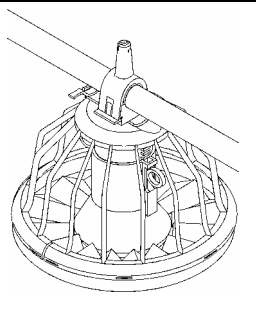


Fig. 741.55

Matching feed pans

			
11 31 3501 Feed pan cpl. BP330 without shut-off	11 31 3530 Feed pan cpl. BP330 with shut-off	11 31 3701 Feed pan cpl. BP330-Plus without shut-off	11 31 3730 Feed pan cpl. BP330-Plus with shut-off

10.8.2 Tube 45x1,25-3050 for Fluxx 330-5/330-14

Pos.	Code No.	Description
1	11 31 3522	Tube 45x1,25 3050 2hole BP330
2	11 31 3523	Tube 45x1,25 3050 3hole BP330
3	11 31 3524	Tube 45x1,25 3050 4hole BP330

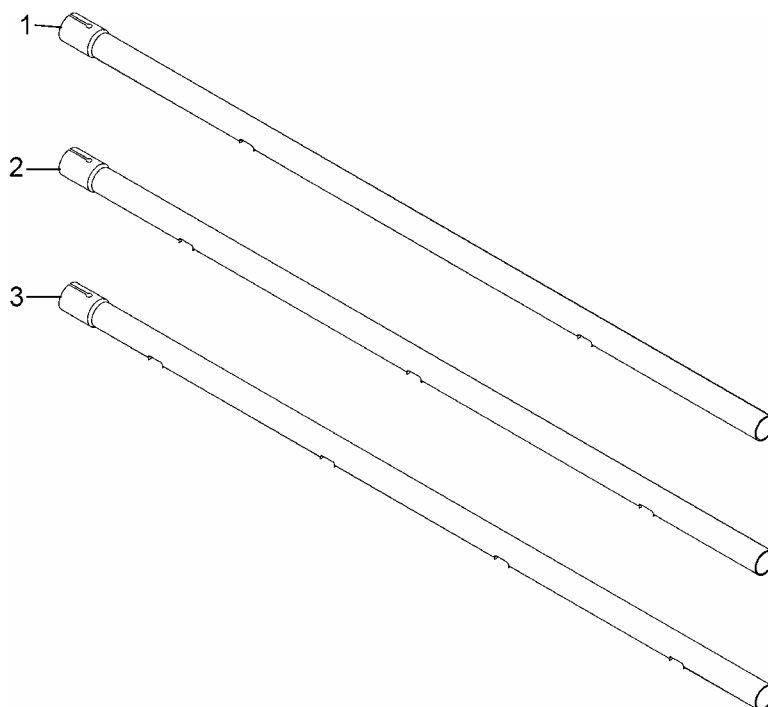


Fig. 741.57

Matching feed pans

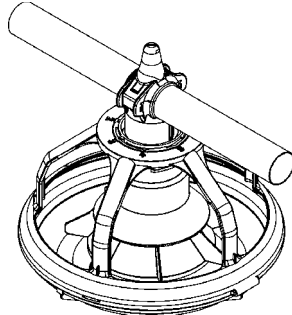
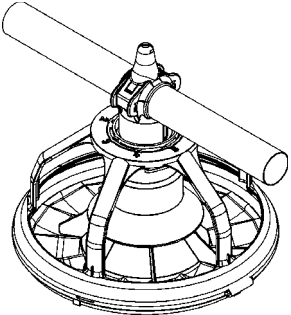
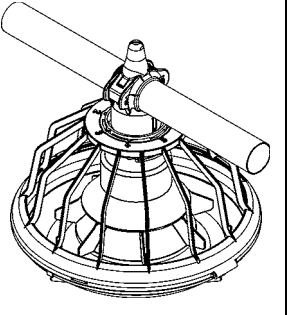
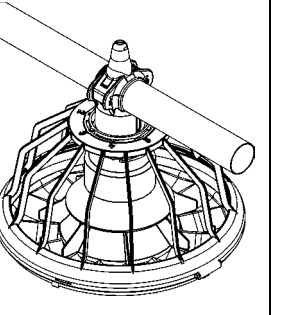
			
11-31-4750 Feed pan cpl FLUXX 330-5 with BP-dish	11-31-4760 Feed pan cpl FLUXX 330-5 plus with RPM-dish	11-31-4700 Feed pan cpl FLUXX 330-14 with BP-dish	11-31-4710 Feed pan cpl FLUXX 330-14 plus with RPM- dish

Fig. 741.58

Tube 45x1,25-3050 for Multi-Pan 330/plus

Pos.	Code No.	Description
1	11 31 3522	Tube 45x1,25 3050 2hole BP330
2	11 31 3523	Tube 45x1,25 3050 3hole BP330
3	11 31 3524	Tube 45x1,25 3050 4hole BP330

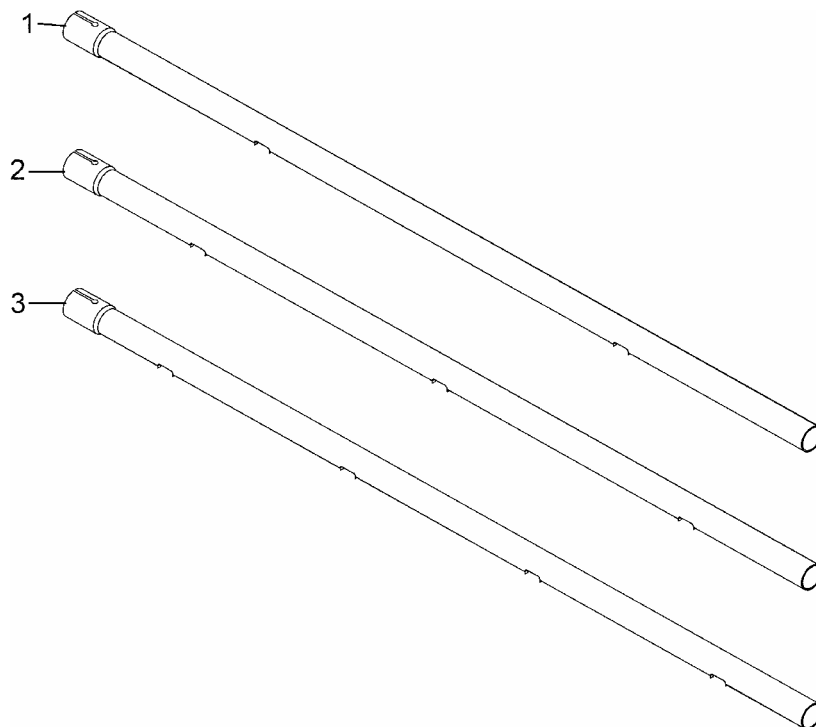


Fig. 741.59

Matching feed pans

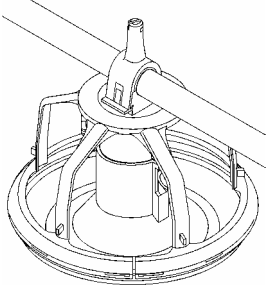
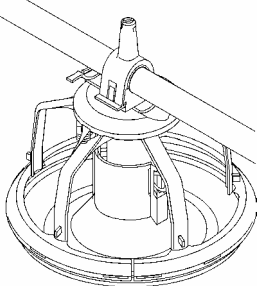
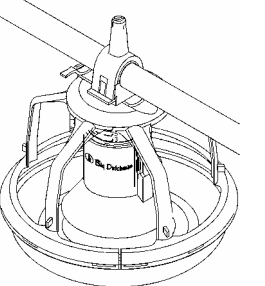
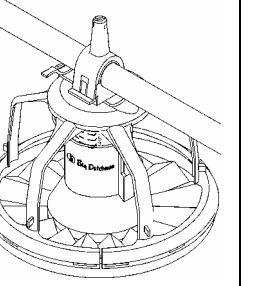
			
11 31 3570 Feed pan cpl. BP330 without shut-off with MP pan	11 31 3560 Feed pan cpl. BP330 with shut-off with MP pan	11 31 3555 Feed pan cpl. MP330 with shut-off with BP pan	11 31 3565 Feed pan cpl. MP330 Plus with shut-off and RPM pan

Fig. 741.60

10.8.4 Tube 45x1,25x3050 for Male-Pan

Pos.	Code No.	Description
1	11 03 3721	Tube 45x1,25 3050 1hole Male Pan
2	11 03 3722	Tube 45x1,25 3050 2hole Male Pan
3	11 03 3723	Tube 45x1,25 3050 3hole Male Pan

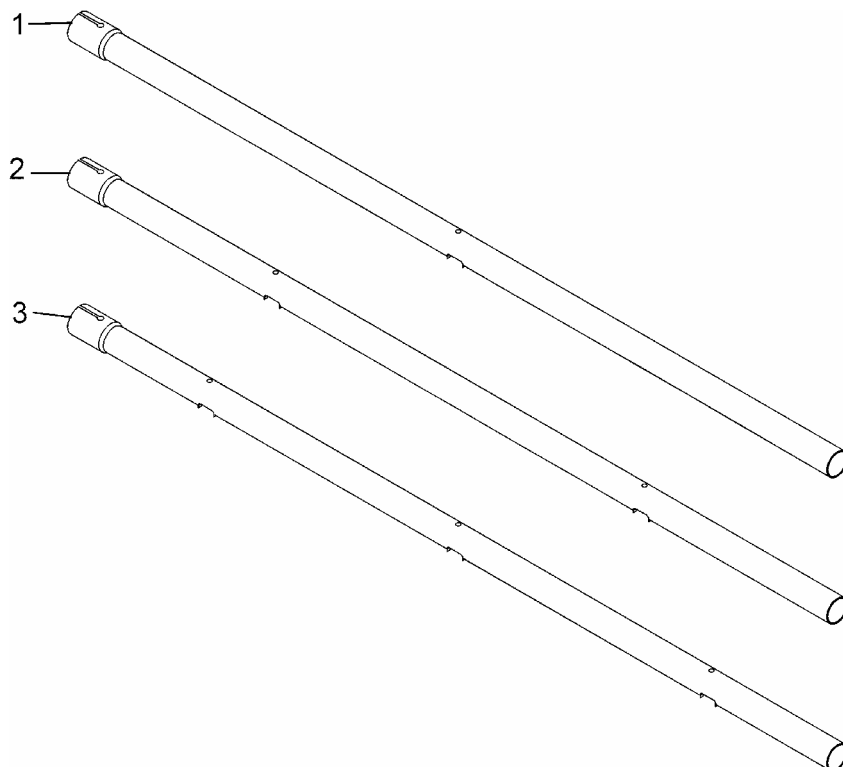


Fig. 741.61

Matching feed pans

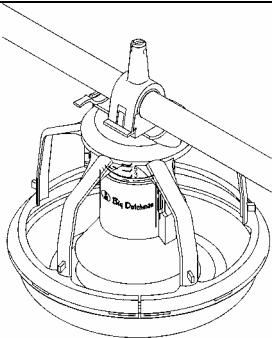
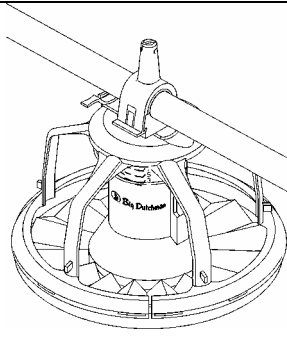
	
11 31 3585 Feed pan cpl. Male-Pan with shut-off and BP pan	11 31 3590 Feed pan cpl. Male-Pan with shut-off and RPM pan

Fig. 741.62

10.8.5 End tubes



Control pans are always installed as the last but one pans in the end tube in front of the AM drive. Pos X.

Pos.	Code No.	Description
1	83-00-3589	End tube 2775mm 2hole dia45,0 TRU PAN
	83-00-4615	End tube 2650mm 2hole dia50,8 TRU PAN
2	11-03-3729	End tube 2775mm 3hole dia45,0 Male-Pan
3	11-31-3529	End tube 2775mm 4hole dia45,0 BP330

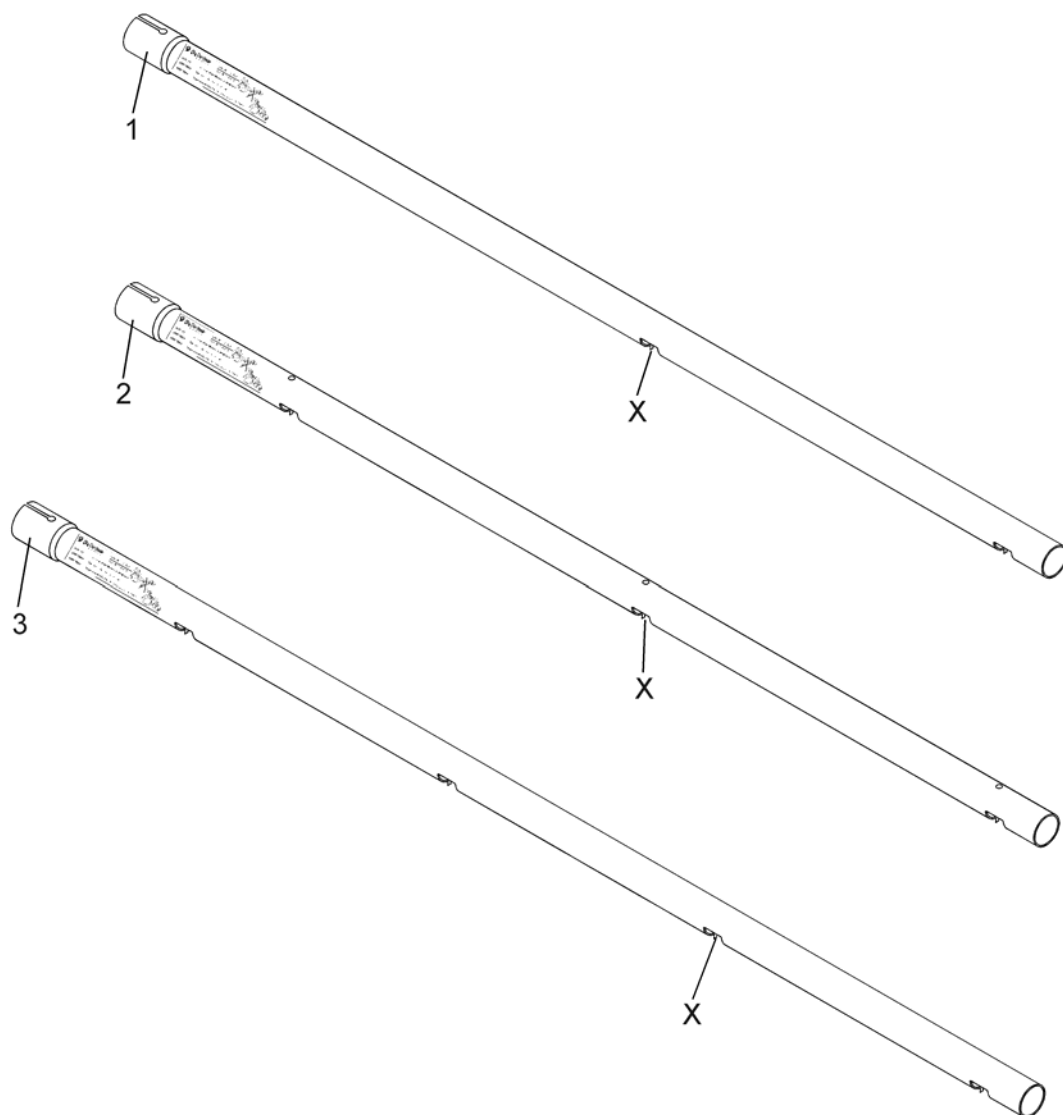


Fig 741.62a

10.9 Assembly AM drive

	Push the AM drive onto the end of the end tube of the line up to the limit stop. With a tube diameter of 45 mm, put a sleeve into the clamping mechanism of the AM drive.
---	---

Pos.	Code No.	Description
1		AM drive with sensor
2		Feed pan
3		Control pan
4		End tube
5	11 31 3547	Sleeve 48x1,5 40 for tube dia 45/47,6
	83-00-4914	Sleeve 50x45-40 for tube dia 45/50,8

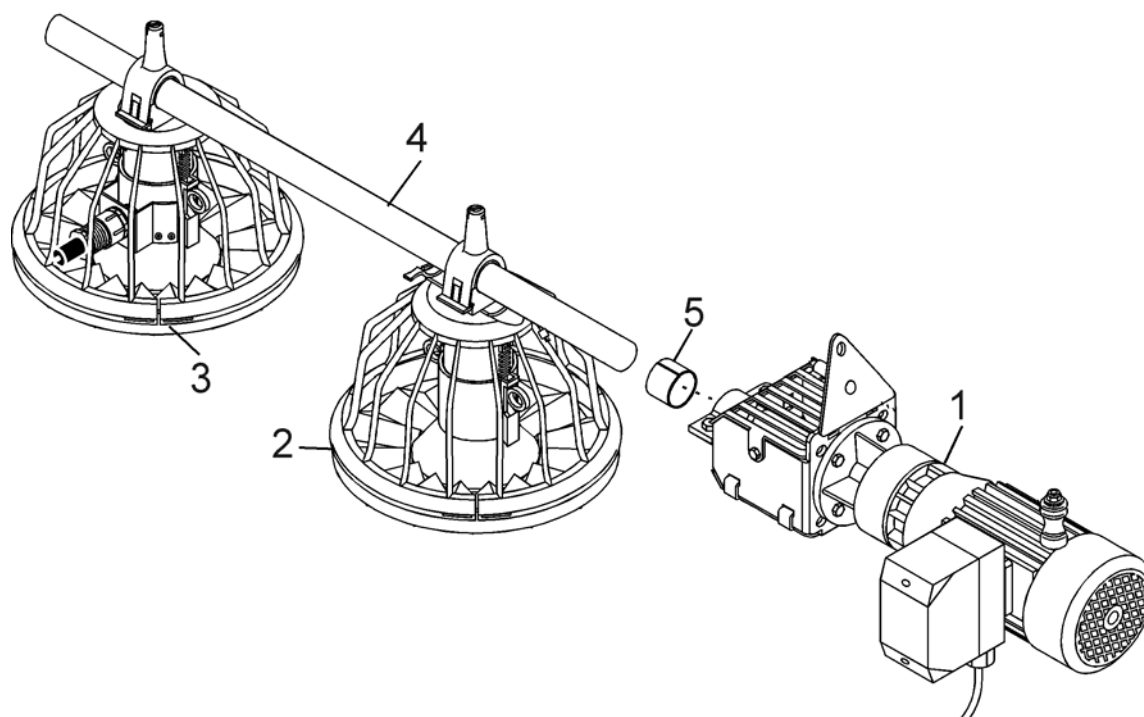


Fig. 741.63

10.9.1 AM3 drive unit

Pos.	Code No.	Description
	11 31 3650	Drive 0,55KW 230/400V 50Hz AM3 with sensor
	11 31 3660	Drive 0,55KW 230/400V 60Hz AM3 with sensor
	11 31 3600	Drive 0,55KW 240V 1PH 50Hz AM3 with sensor
1	90 00 3955	Mot g 0,55 230/400 50 326r Shaft 19x122 AM3
	90 00 3965	Mot g 0,55 215/240 50 326r Shaft 19x122 AM3
	90 00 3975	Mot g 0,55 230/400 50 257r Shaft 19x122 AM3 (=326r/60Hz)
2		Suspension drive 2-hole for AM drive3
3	99 10 1023	Hexagon nut M 5 galv DIN 934 8
4	99 10 3947	Hooked bolt galv M 6x35 Augermatic
5	99 20 1043	Self locking counter nut M 6 DIN 985 6 galv
6	11 31 3601	Bracket cpl. with fastening for switch box AM3
7	99 10 1046	Hexagon head screw M 8x 16 DIN 558 galv
8	99 50 1063	Spring washer A 8 DIN 127 A2E
9	11 31 3603	Mounting plate for switch box at bracket AM3
10	99 10 3892	Tapping screw B 4,8x19 DIN7981
11	11 31 1054	Switch box 230/400 50/60Hz f/sensor
12	91 00 3312	Contactor LC1 DO910 P7 230V 50/60Hz
13	60 40 0654	Sensor MS-45R 220V
14	11 31 3613	Protective covering of cables for drive 230/400V 3PH AM3 cpl. (Pos. 15 to 17)
	11 31 3614	Protective covering of cables for drive 240V 1PH AM3 cpl. (Pos. 15 to 17)
15	11 31 3615	Protective hose UW-PA6-10, 0.4 m
16	99 30 1023	Screw union PG 16 PVC
17	11 31 3617	Cable Ölflex 4x1.5, 0.4 m for 11-31-3613
	11 31 3616	Cable Ölflex 3x1.5, 0.4 m for 11-31-3614
18	11 31 3602	Mounting plate for guard wire mesh at bracket AM3
19	11 31 3604	Guard wire mesh for bracket of AM drive3
20	99 10 1248	Hexagon head screw M 8x 35 DIN 558 galv
21	99 10 1040	Hexagon nut M 8 galv DIN 934 8
22	99 20 1083	Fan type lock washer A 8.4 DIN 6798 phr (external)
23	11 31 3529	End tube 2775mm 4hole dia45 BP330
24	11 31 3547	Sleeve 48x1,5 40 for tube dia 45/47,6
25	11 31 3581	Bracket for cable winch 340kg and hopper suspended AM/BP Feed hopper suspended AM/BP
26	00 00 3006	Pulley 4 1/8" 105mm plastic

Pos.	Code No.	Description
27	99 50 3003	U-bolt galv 8x25/W34/H48
28	99 20 1064	Self locking counter nut M 8 DIN 985 6 galv
29	99 50 3700	Wire rope 5mm galv
30	99 50 0120	Cable clamp 5mm 3/16" galv
31	00 00 1186	Pictograph: Before maintenance work main switch "OFF"
32	00 00 1187	Pictograph: shielding

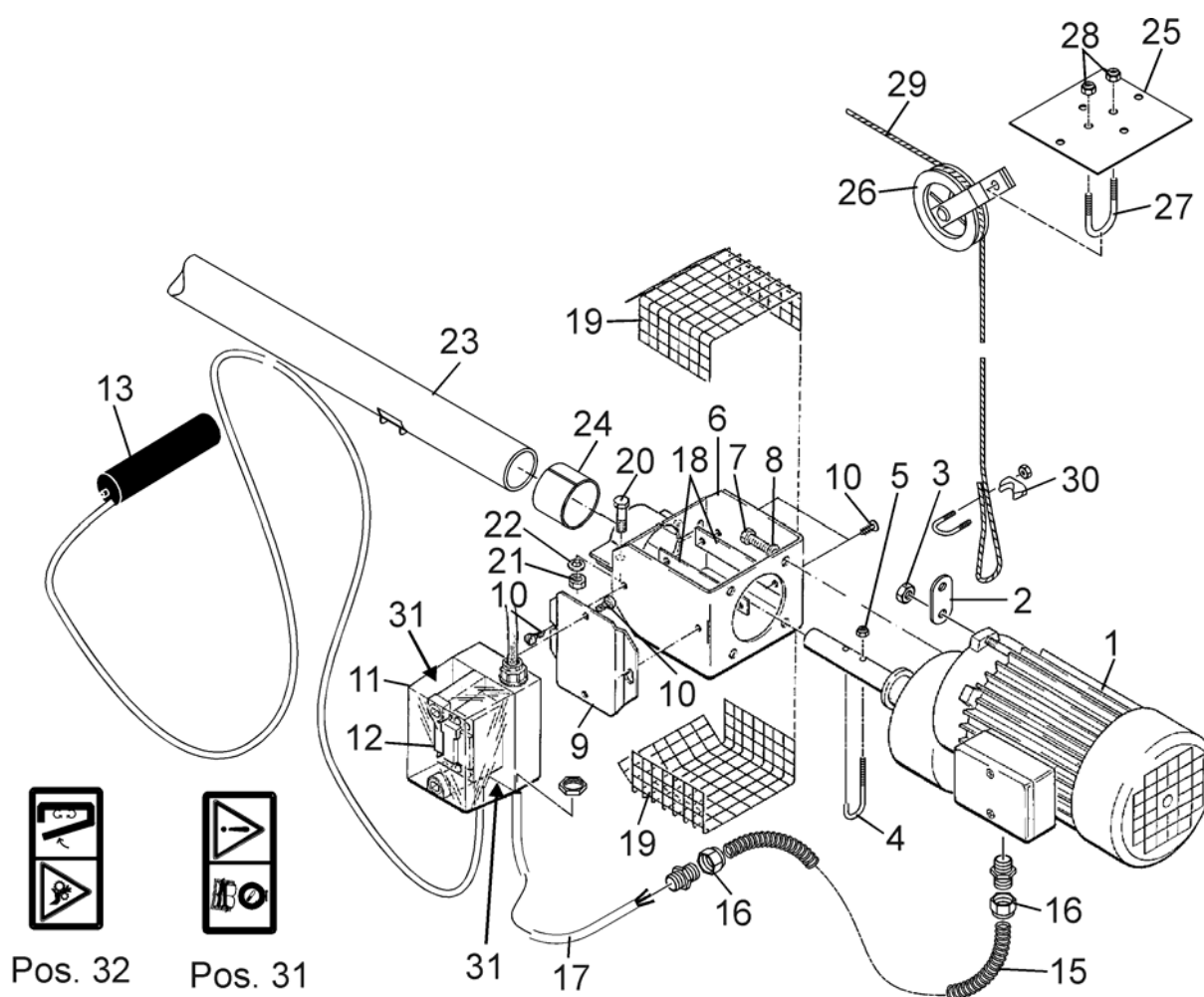


Fig. 741.64

10.9.2 AM4 drive unit

Pos.	Code No.	Description
	11 31 3950	Drive 0,37KW 230/400V 50Hz AM4 with sensor
	11 31 3910	Drive 0,37KW 230/400V 60Hz AM4 with sensor
	11 31 3900	Drive 0,37KW 230V 1PH 50Hz AM4 with sensor
	90 00 4055	Mot g 0,37 230/400 50/60 Hz 320r Shaft 19x122 AM4
1	90 00 4065	Mot g 0,37 230 50 320r Shaft 19x122 AM4
2		Drive bracket AM4
3		Guard wire mesh single for bracket of AM drive4
4	99 10 1241	Hexagon head screw M 5x 12 DIN 558 galv
5	99 10 1088	Hexagon head screw M 6x 20 DIN 558 galv
6	99 50 1147	Washer B 6,4 DIN 125 galv
7	99 10 1045	Hexagon nut M 6 galv 934 8
8	99 10 3947	Hooked bolt galv M 6x35 Augermatic
9	99 20 1043	Self locking counter nut M 6 DIN 985 6 galv
10		Fixing clamp for tube clamp AM4
11	99 10 1248	Hexagon head screw M 8x 35 DIN 558 galv
12	99 20 1026	Washer A 8,4 DIN 125
13	99 10 1040	Hexagon nut M 8 galv DIN 934 8
14		Housing CI-K-1 95TS cpl.
15		Contactor 4 kW DILOOM
16		Cable screw union V-M20
17		Fuse holder
18		Fuse 5x20 G2A
19	60 40 0654	Sensor MS-45R 220V
20		Suspension bracket AM4
21	39 00 3279	Insulator EV/UV
22	99 10 1152	Hexagon head screw M 5x 50 DIN 558 galv
23	99 20 3706	Washer flat 5,5x25x1,5 galv
24	99 10 1023	Hexagon nut M 5 galv DIN 934 8
25	11 31 3744	Insulator for corner 90deg RPM/Challenger
26	99 20 1003	Washer flat A 5,3 DIN 9021 galv
27	99 20 1033	Self locking counter nut M 5 DIN 985 6 galv
28	99 50 1260	Wire rope 2mm galv
29	99 50 0014	Cable clamp 3mm 1/8" galv DIN 741
30	99 50 0005	S hook 2" no 60/6x55
31	99 50 1077	Thimble 6mm for cable 5mm DIN 6899
32	39 00 3096	Tension spring 2x14x134 C DIN 17223 galv
33	99 50 3700	Wire rope 5mm galv
34	99 50 0120	Cable clamp 5mm 3/16" galv
35	00 00 3006	Pulley 4 1/8" 105mm plastic

Pos.	Code No.	Description
36	11 31 3581	Bracket for cable winch 340kg and hopper suspended AM/BP
37	99 50 3003	U bolt galv 8x25/W34/H50
38	99 20 1064	Self locking counter nut M 8 DIN 985 6 galv
39	11 31 3547	Sleeve 48x1,5 40 for tube dia 45/47,6
40		End tube BP330
41		Tube AM7BP
42	11 31 1155	End anchor cpl. anti roost AM
43	99 10 1152	Hexagon head screw M 5x 50 DIN 558 galv.
44	00 00 0032	Insulator porcelain anti-roost cable
45	11 31 1158	Bracket f/insulator AM355
46	11 31 1157	Clamp half f/end anchor AM355
47	99 10 1067	Hexagon head screw M 6x 16 DIN 558 galv.
48	00 00 1186	Pictograph: Before maintenance work main switch "OFF"
49	00 00 1187	Pictograph: shielding

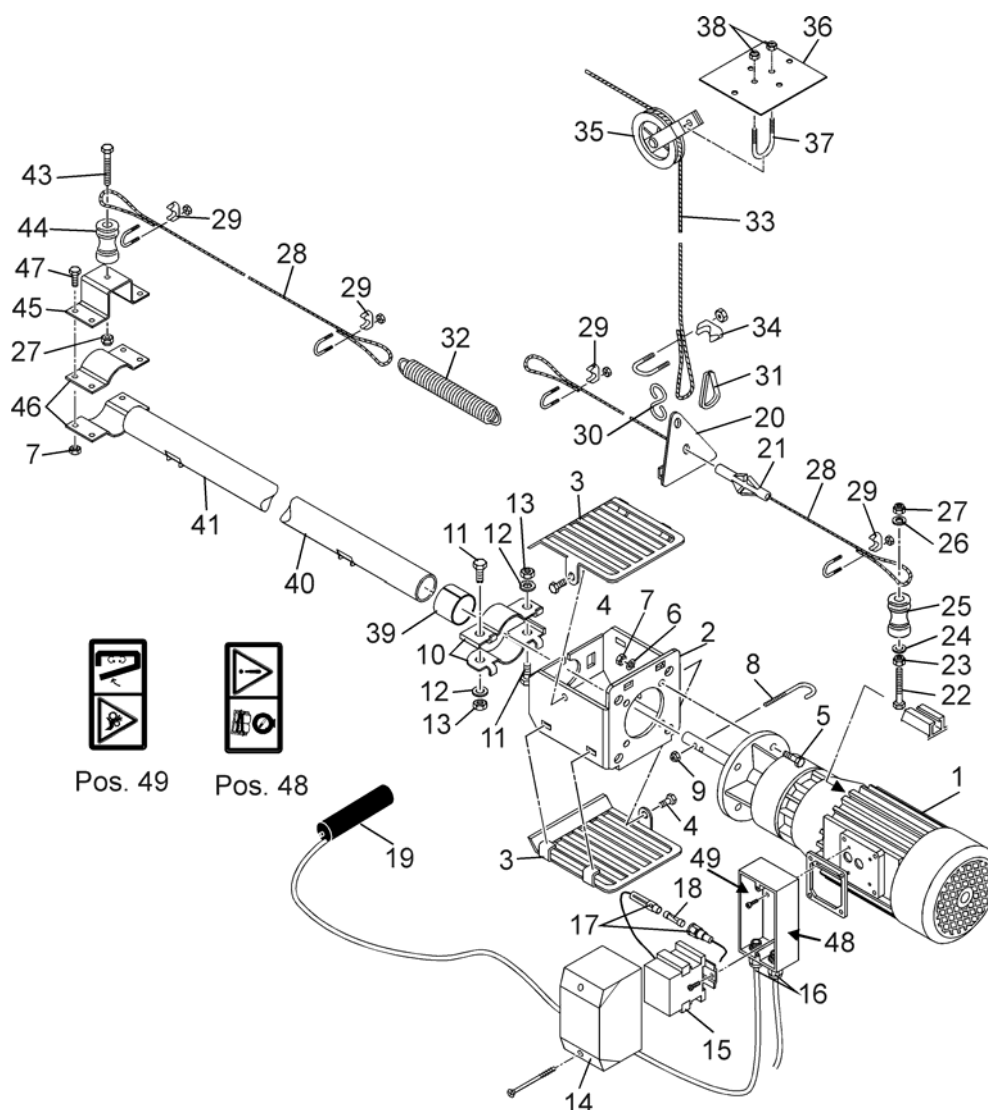
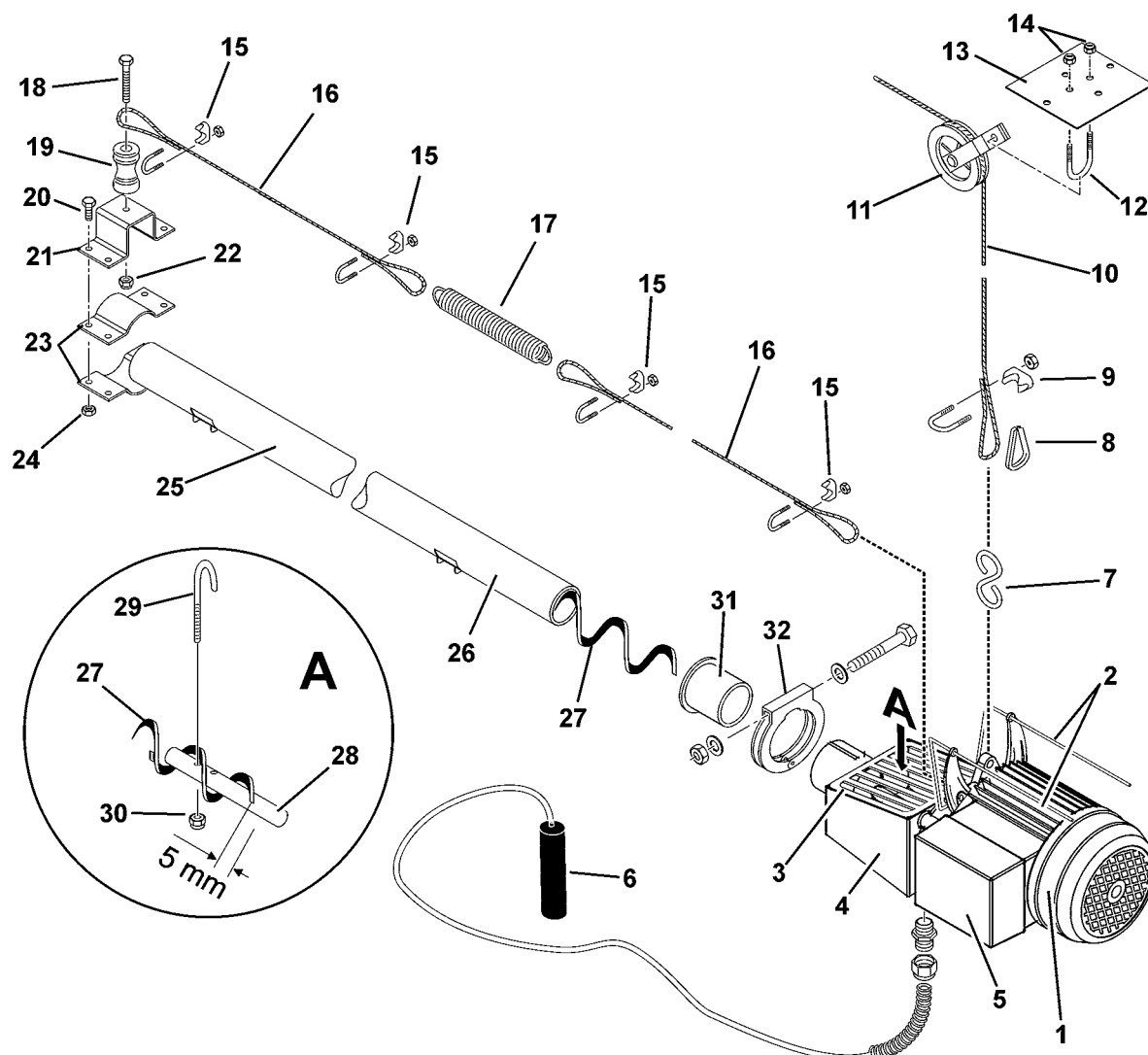


Fig. 741.65

10.9.3 AM5 drive unit

Pos.	Code No.	Description
1	11-31-4502	Drive 0,37KW 230V 1PH 50Hz AM5 wo/sensor w/switch box
	11-31-4512	Drive 0,37KW 230/400V 60Hz AM5 wo/sensor w/switch box
	11-31-4552	Drive 0,37KW 230/400V 50Hz AM5 wo/sensor w/switch box
	11-31-4602	Drive 0,55KW 230V 1PH 50Hz AM5 wo/sensor w/switch box
	11-31-4612	Drive 0,55KW 230/400V 60Hz AM5 wo/sensor w/switch box
	11-31-4613	Drive 0,55KW 200V 3PH 60Hz AM5 wo/sensor w/switch box
	11-31-4652	Drive 0,55KW 230/400V 50Hz AM5 wo/sensor w/switch box
	11-31-4653	Drive 0,55KW 200V 3PH 50Hz AM5 wo/sensor w/switch box
2		Anti-roost-wire for drive AM 5
3		Guard wire mesh single for bracket of AM drive5
4		Drive bracket AM4
5		Terminal box with integrated On- / Off switch
6	91 00 3905	Sensor AFS-01-60sec 90-250V
	60-40-0654	Sensor MS-45R 220V
7	99-50-0005	S hook 2" no 60/6x55
8	99-50-1077	Thimble 6mm for cable 5mm DIN 6899 NG 6 RW7
9	99-50-0120	Cable clamp 5mm 3/16" galv
10	99-50-3700	Wire rope 5mm galv
11	00-00-3006	Pulley 4 1/8" 105mm plastic. mit Aufhängestreifen
12	99-50-3003	U bolt galv 8x25/W34/H50
13	11-31-3581	Bracket for cable winch 340kg and hopper suspended AM/BP
14	99-20-1064	Self locking counter nut M 8 DIN 985 6 galv
15	99-50-0014	Cable clamp 3mm 1/8" galv DIN 741
16	99-50-1260	Wire rope 2mm galv
17	39-00-3096	Tension spring 2x14x134 C DIN 17223 galv
18	99-10-1152	Hexagon head screw M 5x 50 DIN 558 galv.
19	00-00-0032	Insulator porcelain anti-roost cable
20	99-10-1067	Hexagon head screw M 6x 16 DIN 558 galv
21	11-31-1158	Bracket f/insulator AM355
22	99-20-1033	Self locking counter nut M 5 DIN 985 6 galv
23	11-31-1157	Clamp half f/end anchor AM355
24	99-10-1045	Hexagon nut M 6 galv 934 8
25		Tube AM / BP
26		End tube BP330
27	11-31-3248	Auger open core 35,4x45x19,6x4,3 right AM/SA
28		Shaft AM drive
29	99-10 3947	Hooked bolt galv M 6x35 Augermatic
30	99-20-1043	Self locking counter nut M 6 DIN 985 6 galv
31	83-00-4914	Sleeve 50x45-40 for tube dia 45/50,8
32	11-31-3211	Tube clamp riveted cpl for tube d45,0
33		End anchor (Pos 18 to 24)



10.9.3.1 Description of drive unit AM5

Terminal box (5)

Integrated in the terminal box is a control relais and an On/Off switch for the drive. The drive is protected by means of a flap against unintentional operation by the animals. Also included in the terminal box are a micro-fuse for the sensor and an overheating protection for the motor. This protective device does NOT replace the protective motor switch, which has to be installed either externally on the gable wall or in a central control box, as hitherto.



Direct intervention well (4)

The direct intervention well is dimensioned spaciouly to allow for easy mounting of the Augermatic spiral. It is closed with a plastic grid, which can easily be opened by releasing the snap fasteners with a screw driver.

Anti-perch fixture (2)

The AM drive5 already comes with an anti-perch fixture, so that additional installation works are not necessary.

Motor with integrated thermal contacts (1)

The thermal contacts for overheating protection are integrated in the motor coils. The contacts provide reliable protection from high temperatures, thus preventing stalling and burning through of the motor. This overheating protection does NOT replace the normal protective motor switch.

Tube adaptor for 45 mm and 50.8 mm tubes.

The AM drive5 can be used with 50.8 mm or 45 mm tubes. When using a 45 mm tube, a reducing bush (31) for the tube adaptor has to be installed at the drive.

Suspension eye

By means of the suspension eye that is integrated in the motor housing the AM drive5 can easily be secured at the suspension cords of the feed circuit.

Gear aereation

The vent of the gear has to be opened before initiation of the drive by pulling off the plug.

10.10 Installing the HD AM auger

10.10.1 Drawing-in the HD AM auger

	Keep the HD AM auger in a dry place to prevent it from rusting. Remove all wire parts, thread remains and other foreign matter before starting to install the HD AM auger. Do not bend nor damage the HD AM auger during installation. Remove all kinks and damages from the HD AM auger. If required, weld the HD AM auger anew. Round off the ends of the HD AM auger cut to size. Start inserting the HD AM auger (1) at the lower part of the feed hopper (2). Make sure that there is a distance of approx. 5 mm between the last winding of the HD AM auger (1) and the wall of the drive bracket (3).
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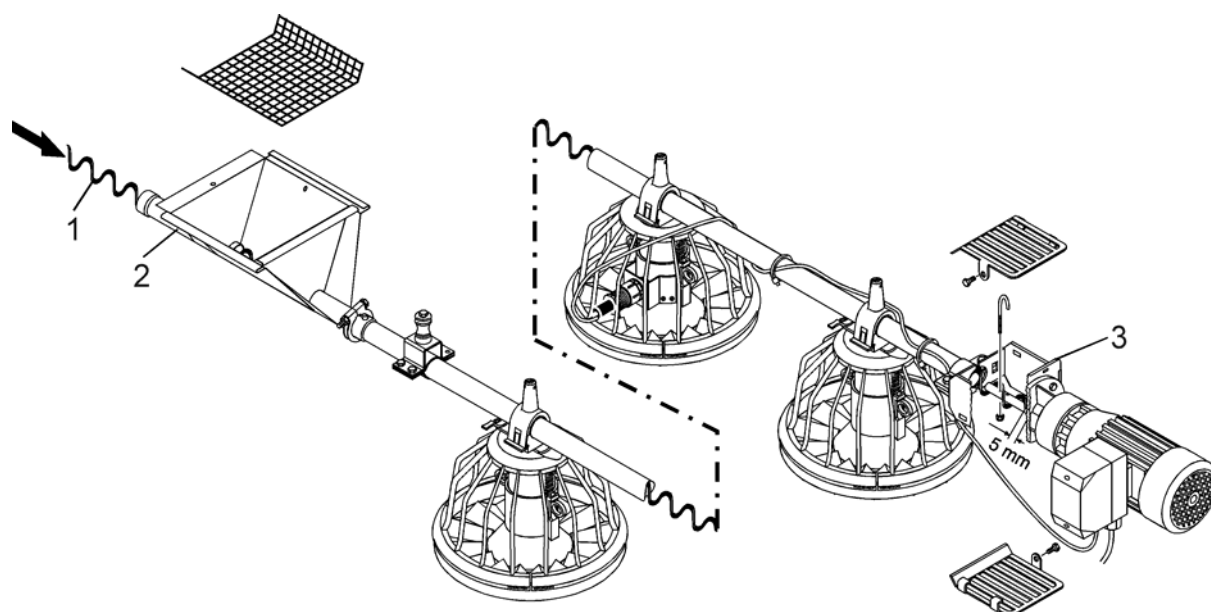


Fig. 741.66

10.10.2 Tensioning the HD AM auger

	Pull out the HD AM auger (3) from the lower part of the feed hopper (1) until it is under tension. Let the HD AM auger (3) go back into slackened state. Mark the HD AM auger (3) at the outlet of the lower part of the feed hopper (1). For tensioning, pull out the HD AM auger (3) for 10 cm + 0.6 % of the entire auger length out of the lower part of the feed hopper (1). e.g.: 80 m auger length, auger length to be pulled out = 10 cm + (8000 cm x 0.6 %) = 58 cm. Fix the HD AM auger (3) at the outlet of the lower part for feed hopper (1) by means of a vise-grip wrench (8). Cut off the HD AM auger (3) at the marked point and round off the edges. Push the tension shaft cpl. 19 mm AM (5) into the HD AM auger (3) so that the end of the HD AM auger (3) is at a distance of approx. 5 mm from the bearing of the tension shaft cpl. 19 mm AM (5). Fix the HD AM auger (3) with the hex socket set screw M 6x6 (6) on the tension shaft cpl. 19 mm AM (5). Carefully remove the vise-grip wrench (8) from the lower part of the feed hopper (1) and let the tension shaft cpl. 19 mm AM (5) slide back into the lower part for feed hopper (1). Fix the tension shaft cpl. 19 mm AM (5) with a U-bolt cpl. 8x25/W52/H69 tube 2" (4) at the lower part for feed hopper (1). Put a cap plastic for lower part of feed hopper (7) on the protruding end of the tension shaft cpl. 19 mm AM (5).
---	--

Pos.	Code No.	Description
1	11 31 3545	Lower part for hopper BP/AM for tube dia 45 and 47,6
2	11 31 1314	Guard wire mesh for Lower part of hopper BP/AM
3	11 31 3238	Auger HD AM
4	99 50 1420	U bolt cadm. cpl. 8x25/W52/H69 Pipe 2"
5	11 05 1082	Tension shaft cpl. 19mm AM w/Seeger ring + bearing housing
6	99 10 1190	Hex socket set screw 6x 6 DIN 916 45H
7	11 31 3546	Cap plastic for lower part for hopper BP GPN 275/54
8		Vise-grip wrench

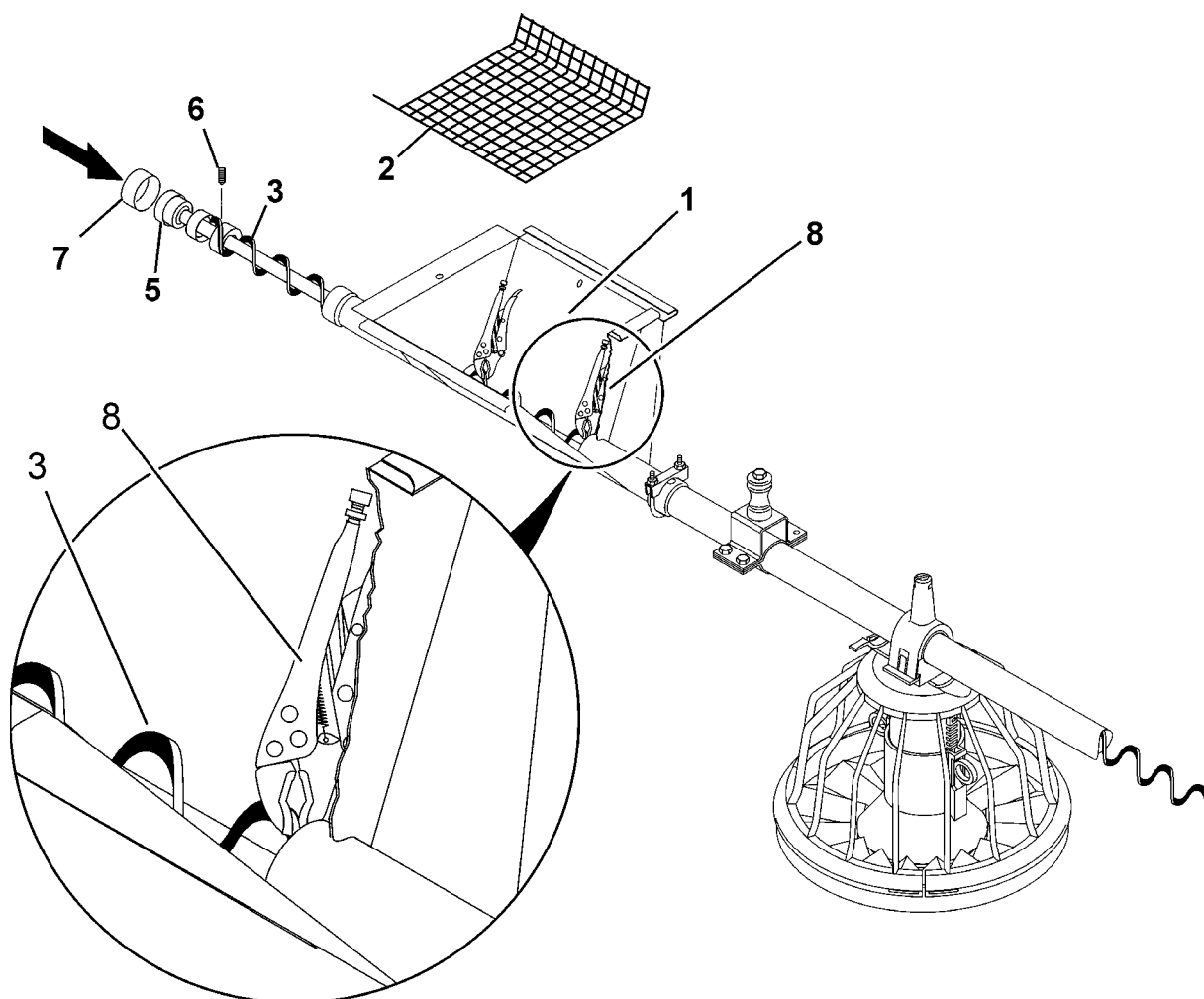


Fig. 741.67

Pos.	Code No.	Description
	11 05 1082	Tension shaft cpl. 19mm AM w/Seeger ring + bearing housing
1	11 31 3019	Shaft 19mm f/AM drive355
2	99 10 1190	Hex socket set screw 6x6 DIN 916 45H
3	99 50 1286	Spring type straight pin 5x30
4	11 31 1108	Bearing housing f/end piece Hopper AM355 Feed hopper AM355
5	11 00 1052	Ball bearing 6203 2RS
6	99 50 1300	Retaining ring DIN471 17x1
7	99 50 1301	Retaining ring DIN472 40x1,75
8	99 20 1125	Washer A 17 DIN 125 galv
9	11 31 3546	Cap plastic for lower part for hopper BP GPN 275/54

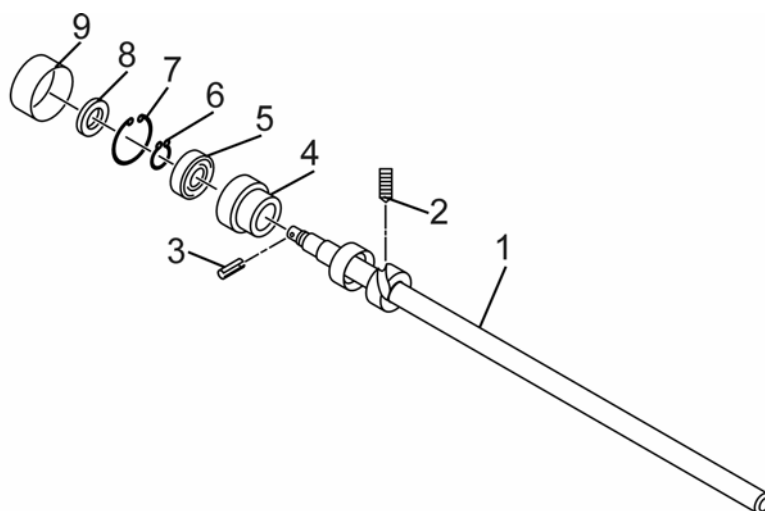


Fig. 741.68

10.10.3 Welding the auger

	Cut off both ends of the auger, round them and clean them so that they are smoothly lying side to side. Place both auger ends into an appropriate template and fix them, e.g. weld template universal Code No. 99 98 3785. Weld the augers so that the feed cannot get jammed in the conveying direction of the auger. Do not hook auger ends into each other but push them into each other and turn until they overlap approx. 25 mm. Weld the augers at the inside and outside. After welding let the auger cool down slowly so that it does not become brittle. Do not use water for cooling. If required, round off weld joints by grinding so that no points protrude from the auger.
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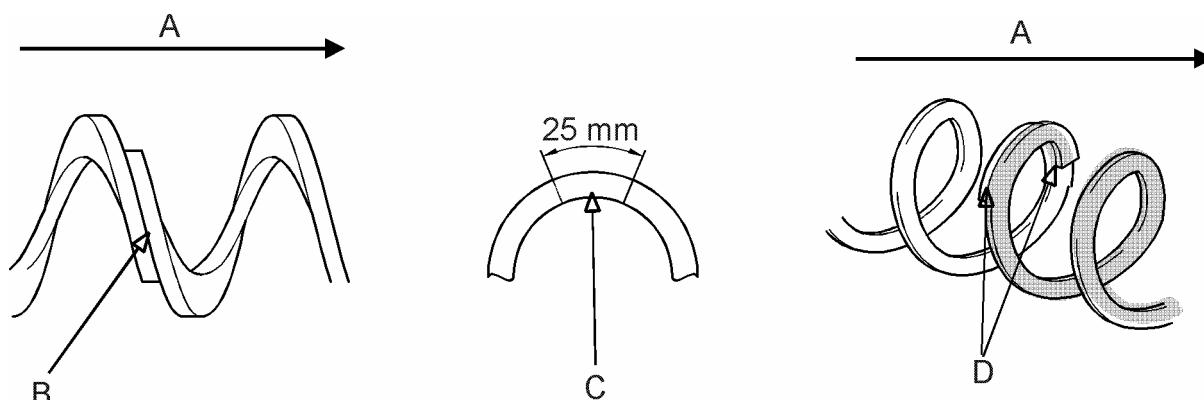


Fig. 741.69

10.10.4 Repairing the auger at the feed hopper or AM drive

- If repairs have to be carried out at the AM drive, release the tube clamp between the last and last but one tube and pull both tubes apart.
- Fix the auger between the tubes by means of a vise-grip wrench.
- Release the auger from the drive and carry out repair.
- If repairs have to be carried out at the feed hopper, proceed the same way.

Pos.	Code No.	Description
1		Tube
2	11-31-3238	Auger HD AM
3		Tube clamp
4		Vise-grip wrench

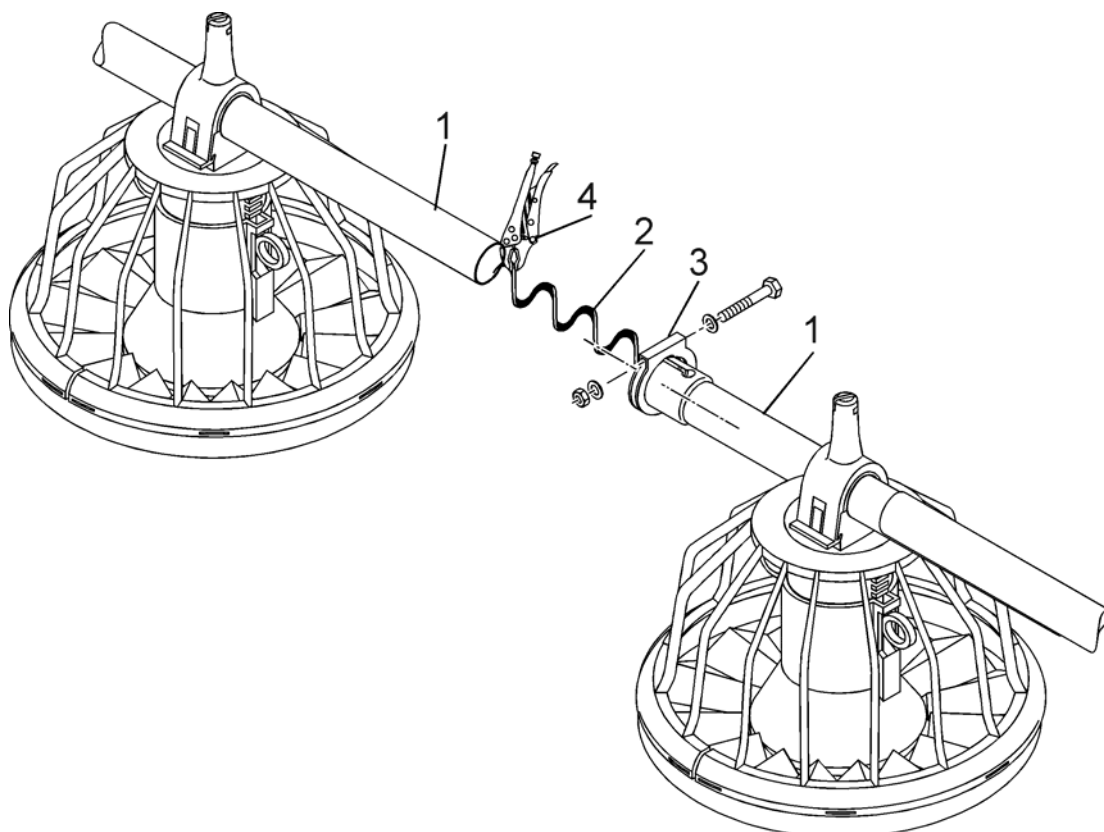


Fig. 741.70

10.11 Installing the anti-roost wire



The anti-roost wire is particularly recommended for pullet and turkey rearing. The anti-roost wire (3) is tensioned over one row length from the drive (1) to the feed hopper (2) and hooked into the tube adapters (4) of the feed pans.

Carefully unroll the wire rope 2 mm upon installation. Prevent kinks and knots upon unrolling.

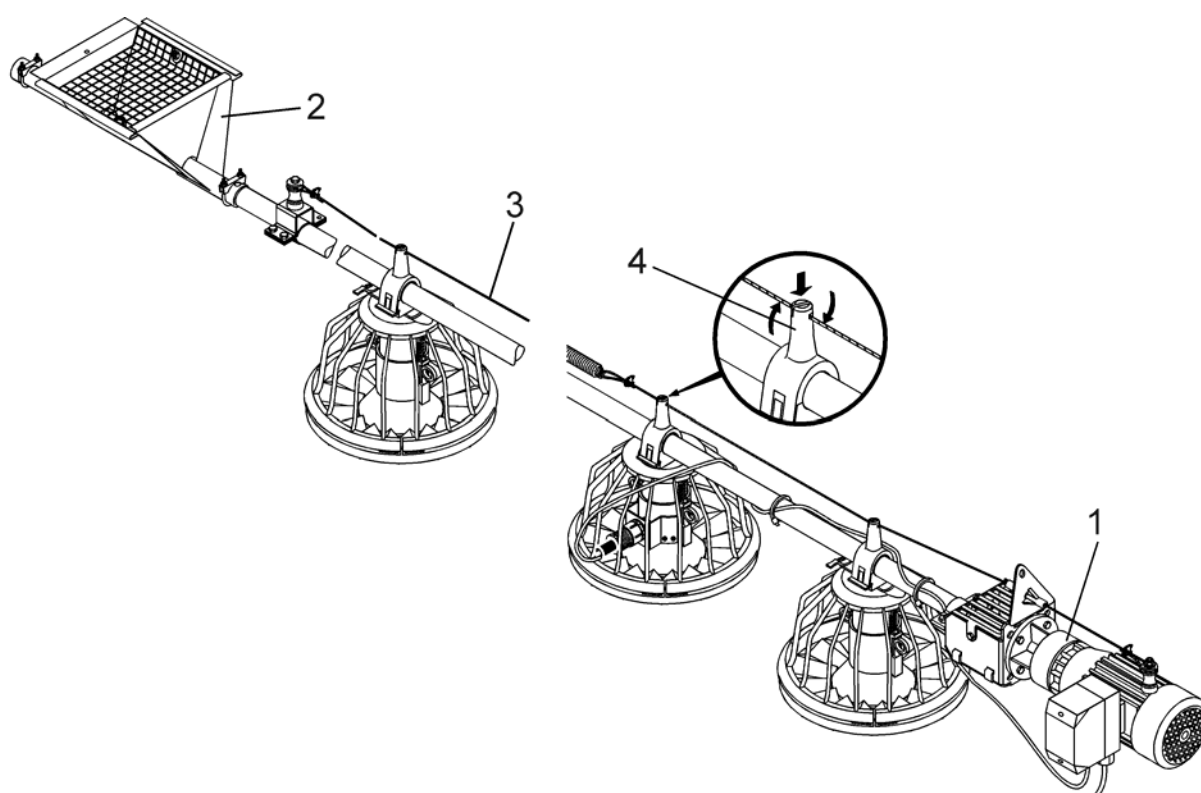


Fig. 741.71



10.11.1 Anti-roost device for AM3 drive

	The AM3 drive can be installed including an anti-roost device. The anti-roost wire above the AM3 drive is connected to the wire above the Augermatic tube and supplied with current if an electric fence is used. Replace the hexagon head screw M 5x50 of the end anchor cpl. anti-roost AM and the insulator for anti-roost cable by a hexagon head screw M 5x 35 and an insulator at the AM3 drive. The suspension eye 2-hole for AM3 drive has to be replaced by a suspension eye for AM3 drive.
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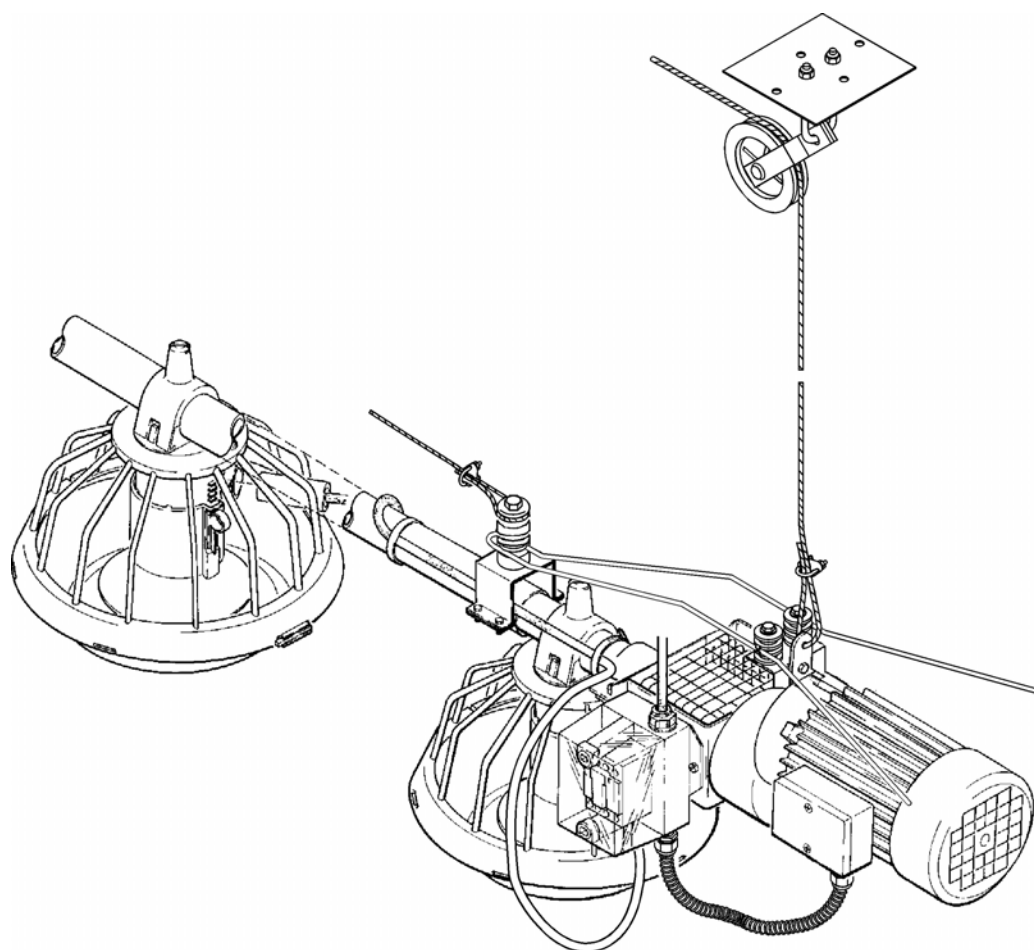


Fig. 741.72

Anti-roost device for AM3 drive

Pos.	Code No.	Description
1		Gear motor for Augermatic drive
2	11 31 3655	Anti roost for AM drive3
3	11 31 3606	Anti roost wire f/AM drive3
4	99 20 1033	Self locking counter nut M 5 DIN 985 6 galv
5	99 10 1097	Hexagon head screw M 5x 16 DIN 558 galv
6	99 50 1146	Washer flat 5,3 DIN 433 ST galv
7	11 31 3608	Suspension eye for AM drive3
8	11 00 0307	Insulator at AM drive3
9	11 31 3611	Bracket for 2 insulators at AM drive
10	99 10 1420	Hexagon head screw M 5x 35 DIN 558 galv
11		Suspension eye 2-hole for AM3 drive
12		End tube BP 330
13	11 31 1155	End anchor cpl. anti roost AM
14	99 10 1152	Hexagon head screw M 5x 50 DIN 558 galv
15	00 00 0032	Insulator porcelain anti-roost cable
16	11 31 1158	Bracket for insulator AM355
17	11 31 1157	Clamp half for end anchor AM355
18	99 10 1067	Hexagon head screw M 6x 16 DIN 558 galv
19	99 10 1045	Hexagon nut M 6 galv DIN 934 8
20	99 50 1260	Wire rope 2mm galv
21	99 50 0014	Cable clamp 3mm 1/8" galv DIN 741
22	11 31 3581	Bracket for cable winch 340kg and hopper suspended AM/BP Feed hopper suspended AM/BP
23	00 00 3006	Pulley 4 1/8" 105mm plastic
24	99 50 3003	U bolt galv 8x25/W34/H48
25	99 20 1064	Self locking counter nut M 8 DIN 985 6 galv
26	99 50 3700	Wire rope 5mm galv
27	99 50 0120	Cable clamp 5mm 3/16" galv

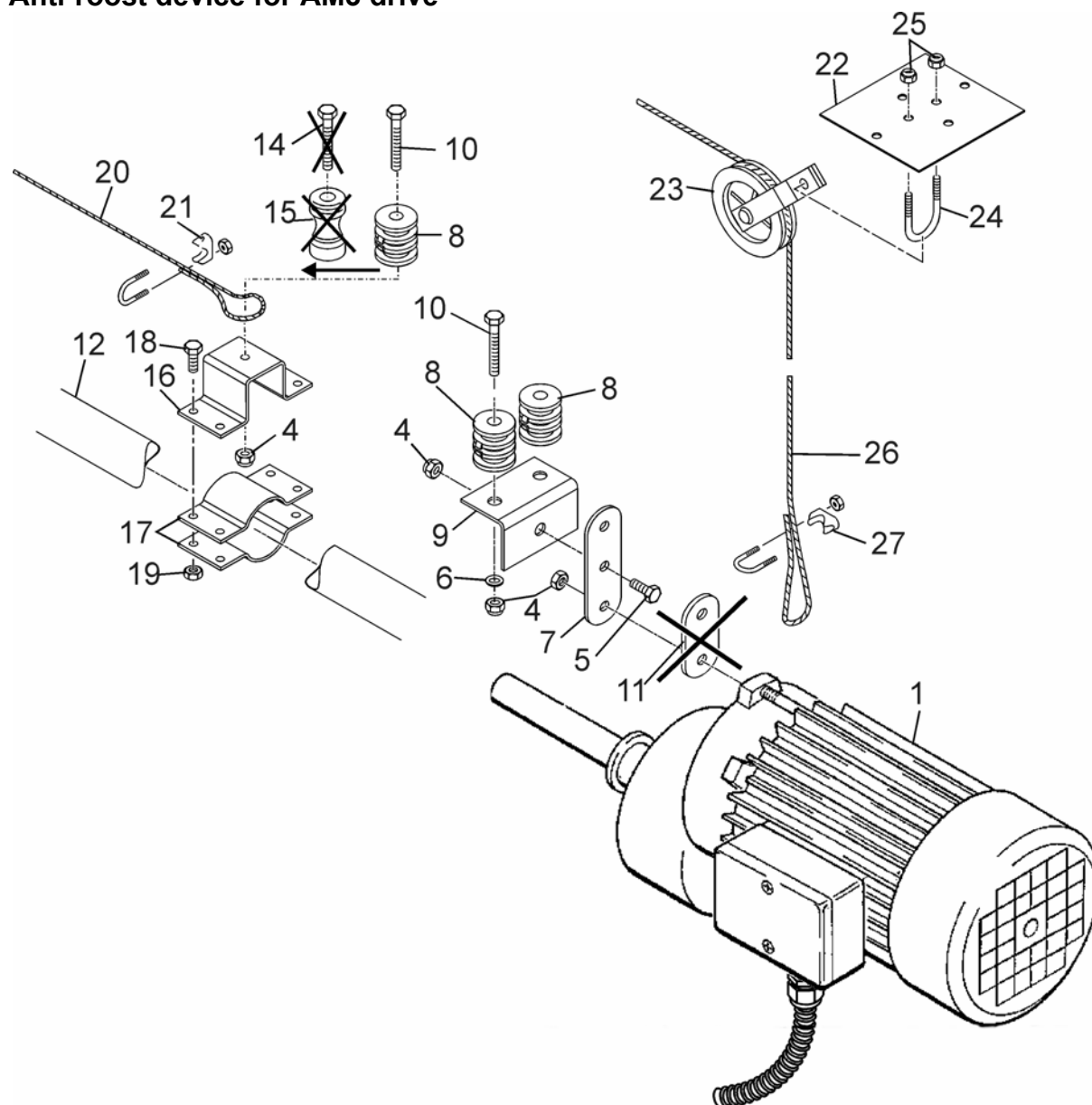
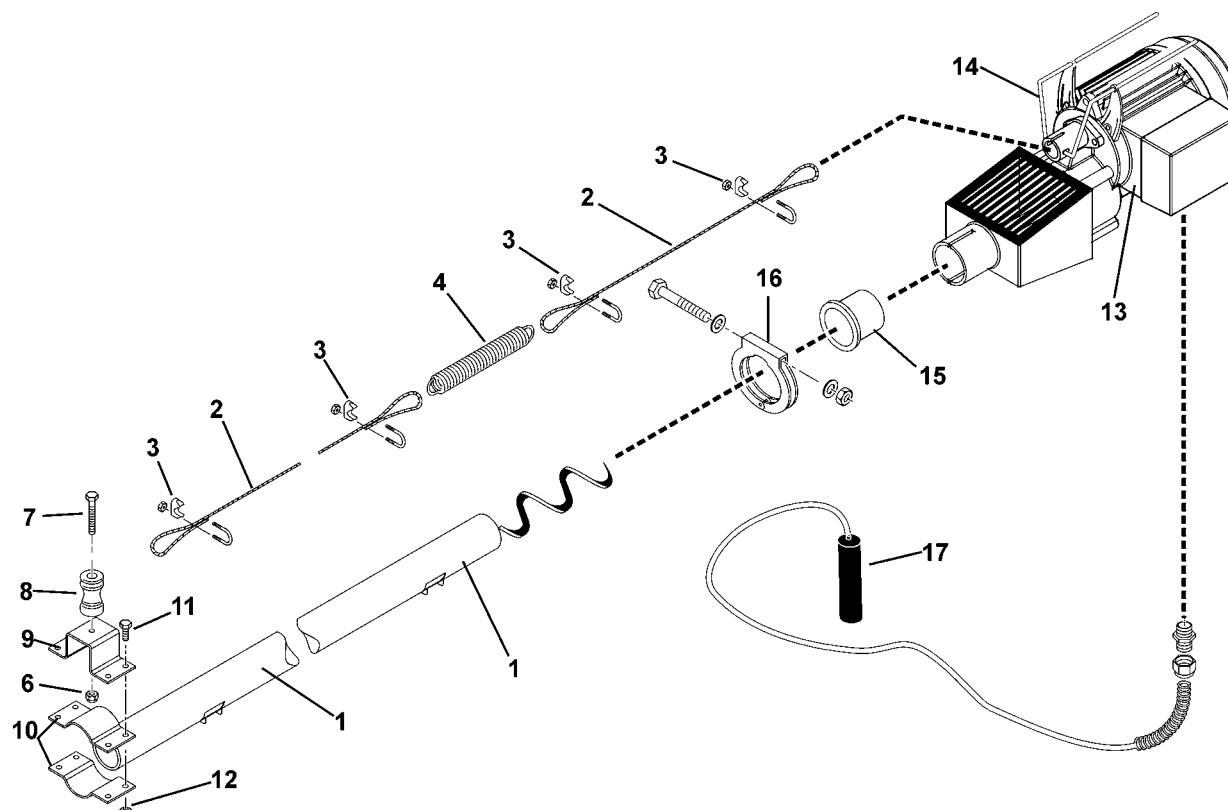
Anti-roost device for AM3 drive

Fig. 741.73

10.11.2 Anti-roost device for AM4 drive

For mounting the anti-roost device for AM drive4, see chapter 10.9.2

10.11.3 Anti-roost device for AM5 drive



Pos.	Code No.	Description
1		Tube AM
2	99-50-1260	Wire rope 2mm verz
3	99-50-0014	Cable clamp 3mm 1/8" galv DIN 741
4	39-00-3096	Tension spring 2x14x134 C DIN 17223 galv
5	11-31-1155	End anchor cpl anti-roost AM (Pos. 6-12)
6	99-20-1033	Self locking counter nut M 5 DIN 985 6 galv
7	99 10 1152	Hexagon head screw M 5x 50 DIN 558 galv
8	00 00 0032	Insulator porcelain anti-roost cable
8	11 31 1158	Bracket for insulator AM355
10	11 31 1157	Clamp half for end anchor AM355
11	99-10-1067	Hexagon head screw M 6x 16 DIN 558 galv
12	99-10-1045	Hexagon nut M 6 galv DIN 934 8
13		AM drive5
14		Anti roost device for AM drive5
15	83-00-4914	Sleeve 50x45-40 for tube dia 45/50,8
16	11-31-3211	Tube clamp riveted cpl for tube d45,0
17	91 00 3905	Sensor AFS-01-60sec 90-250V
	60-40-0654	Sensor MS-45R 220V

10.11.4 Installing the end anchor anti-roost AM and the tension springs

	After approx. 25 AM tubes = 75 m install an end anchor cpl. anti-roost AM. Between two end anchors cpl. anti-roost AM install two tension springs 2,0x14x134 C at a distance of approx. 25 m. Tension the wire rope 2 mm so that the tension springs 2,0x14x134 C are pulled approx. 60 mm longer.
---	---

Pos.	Code No.	Description
1		Tube AM
2	99 50 1260	Wire rope 2mm galv
3	99 50 0014	Cable clamp 3mm 1/8" galv DIN 741
4	39 00 3096	Tension spring 2x14x134 C DIN 17223 galv
5	11 31 1155	End anchor cpl. anti roost AM
6	99 20 1033	Self locking counter nut M 5 DIN 985 6 galv
7	99 10 1152	Hexagon head screw M 5x 50 DIN 558 galv
8	00 00 0032	Insulator porcelain anti-roost cable
8	11 31 1158	Bracket for insulator AM355
10	11 31 1157	Clamp half for end anchor AM355
11	99 10 1067	Hexagon head screw M 6x 16 DIN 558 galv
12	99 10 1045	Hexagon nut M 6 galv DIN 934 8

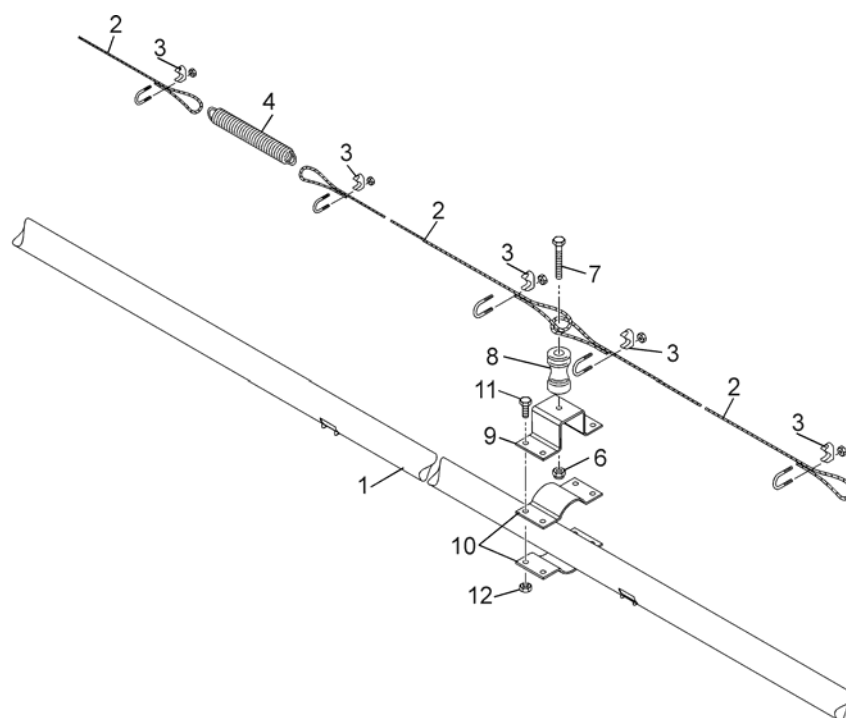


Fig. 741.74

10.12 Connecting the anti-roost device

	Carefully unroll the wire rope 2 mm ! Prevent kinks and knots upon unrolling the wire rope 2 mm ! All tensions springs 2x14x134 C should be extended approx. 60 mm upon tensioning. At each feeding line at the feed hopper place a dolue connector on each wire rope 2 mm where current is supplied. Install the cross rope 2 mm twice per house: 1st for current supply to the anti-roost device 2nd for earthing the feeding line The cross rope 2 mm additionally has to be suspended from the ceiling every 4 m. Connect each feeding line and the cross rope 2 mm for current supply of the anti-roost device by means of a cable NYL 4/7 kV yellow 1.5 • at the anti-roost wire of the feeding line by means of a dolue connector, • at the cross rope 2 mm by means of an adjustable collar. Connect each feeding line and the cross rope 2 mm for current supply of the anti-roost device by means of a cable NYL 4/7 kV yellow 1.5 • at the end anchor cpl. anti-roost AM by means of a hexagon head screw M 6x16 and a hex nut M 6, • at the cross rope 2 mm by means of an adjustable collar.
---	---

	Consider the "General instructions for mounting and connecting an electric fencer."
	Warning against dangerous electric tension

Connecting the anti-roost device

Pos.	Code No.	Description
1		Feed hopper
2	11 31 3710	Feed pan cpl. RPM330 for BB rearing and production
3		Tube AM/BP
4	11 31 1155	End anchor cpl. anti roost AM
5	99 50 1260	Wire rope 2mm galv
6	99 30 3401	Cable NYL 3,75kV yell 1,5
7	91 00 1263	Electric fencer ES 20/60 with cable
	91 00 1013	Electric fencer 50/60Hz 220V wo/plug (for 2000m cable)
8	99 50 0014	Cable clamp 3mm 1/8" galv DIN 741
9	39 00 3096	Tension spring 2x14x134 C DIN 17223 galv
10	99 98 3781	Dowel S 8
11	11 00 9072	Insulator St D with thread for woodwork
12	99 98 5050	Dolue connector 12pcs/6qmm
13	99 30 3104	Adjustable collar black AK2
14	99 10 1067	Hexagon head screw M 6x 16 DIN 558 galv
15	99 10 1045	Hexagon nut M 6 galv DIN 934 8

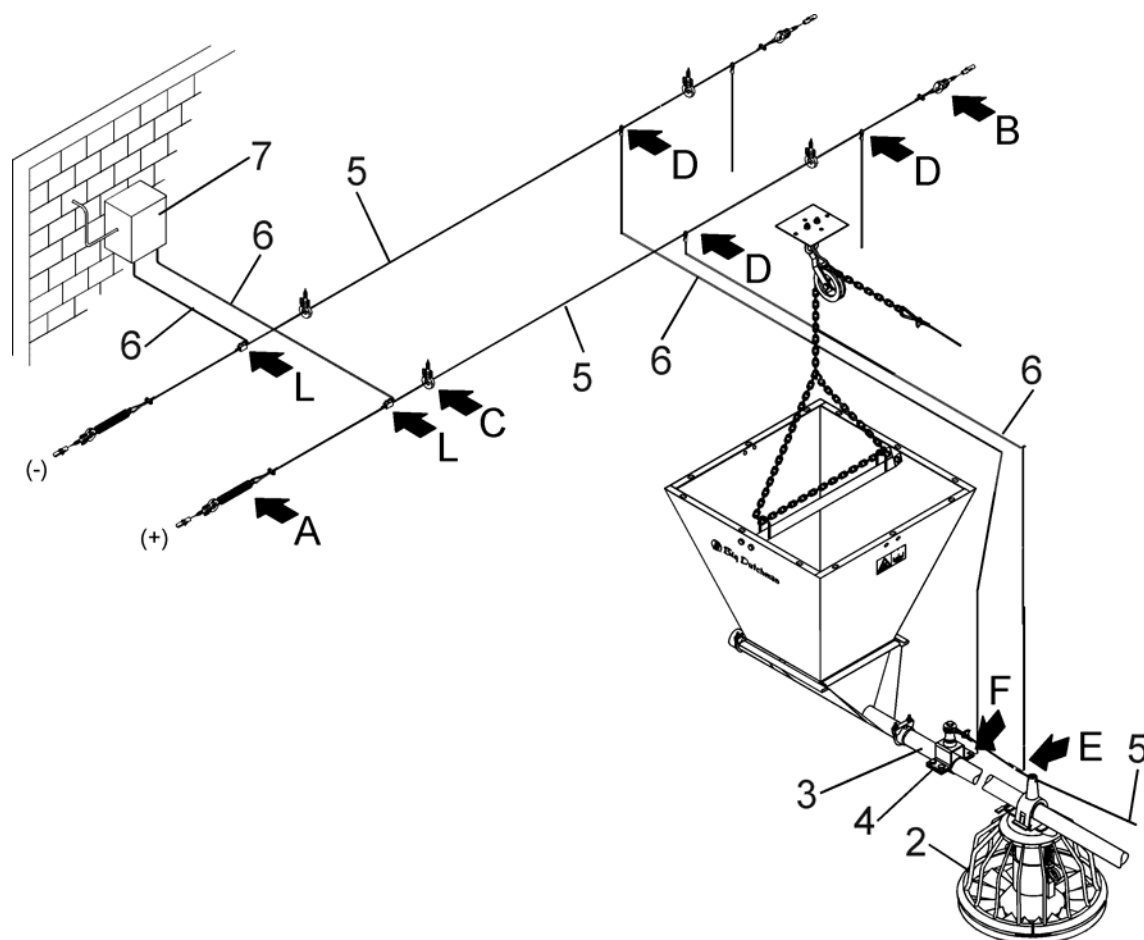


Fig. 741.75

Connecting the anti-roost device

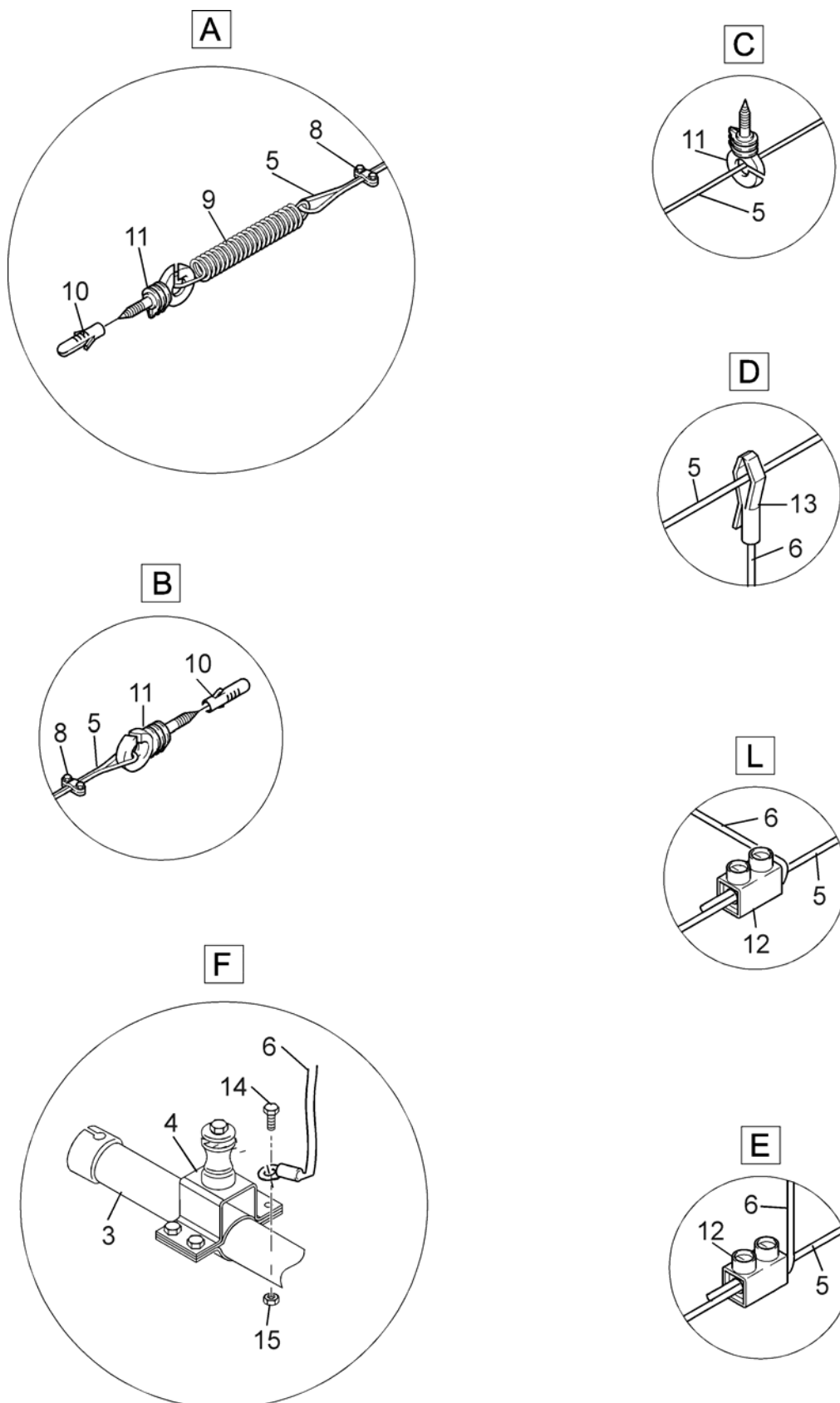


Fig. 741.76

10.13 Installing the sensor

10.13.1 Installing the sensor MS45-R laterally in the control pan

	Place the sensor into the fastening for sensor of the control pan and screw the union down. The fastening for sensor depends on the type of system. Fix the cable of the sensor to the end tube by means of 185 mm straps. The sensor should protrude into the inner cylinder of the feed pan so that it is even with it at the inside. The control pan has to be turned to ensure that the sensor does not point into the direction of the AM drive.
---	--

Pos.	Code No.	Description
1		Drive
2		End tube
3		Control pan
4		Feed pan
5	60 40 0654	Sensor MS-45R 220V
6	38 90 3809	Strap 185mm plt2s c
7	11 31 3572	Fastening cpl. for sensor DOL-33R- BP330
8	99 30 3001	Screw union PG 36
9	11 31 3002	Fixing 1"x1 1/2" 15mm

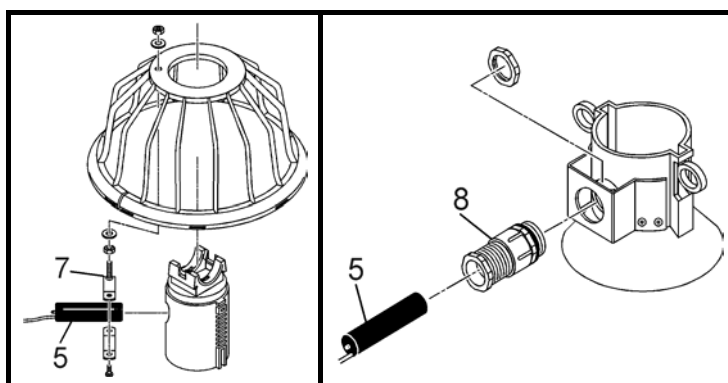


Fig. 741.77

Installing the sensor

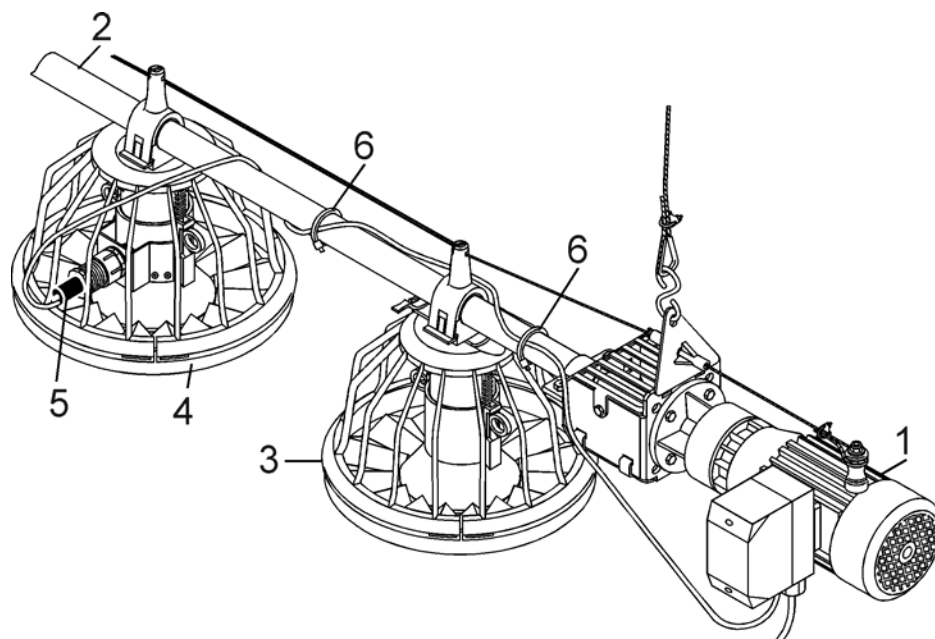


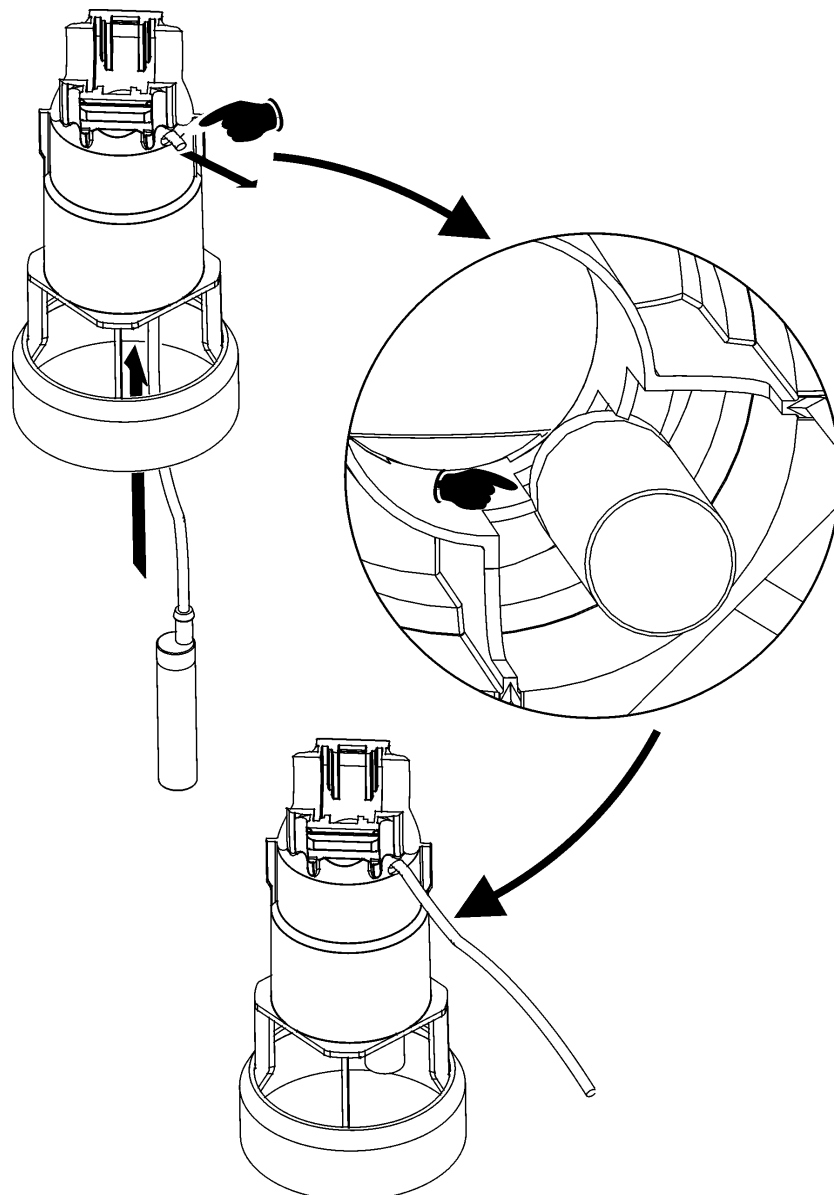
Fig. 741.78

10.13.2 Mounting of sensor AFS 01-60 for control pan Fluxx

The sensor AFS is integrated into the inner cylinder of the Fluxx feed pan. After folding down the feed pan, the cable of the AFS sensor has to be inserted from the bottom of the cylinder and guided through the boring atop of the central cylinder. The cable has to be pulled through the boring until it reaches the sensor.

As can be seen in the below figure, the sensor has to be inserted in the relief of the inner cylinder.

The control pan has to be assembled in such a way, that the boring for the sensor cable lies towards the AM drive (when seen from above).



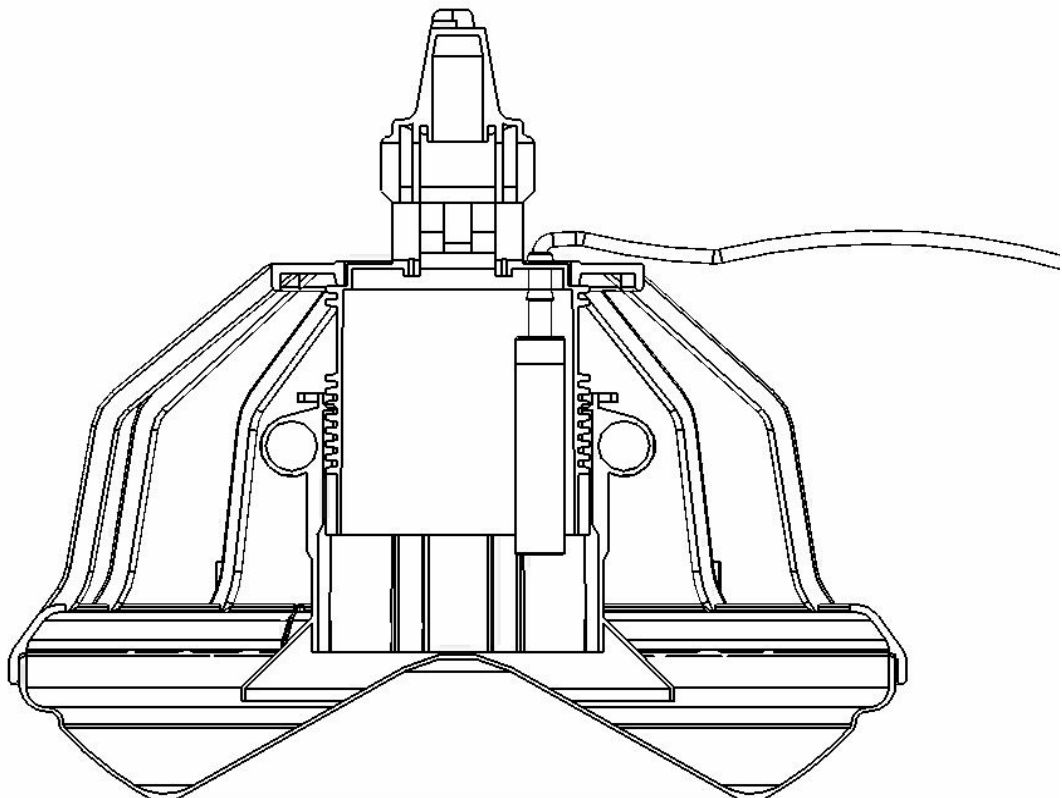
10.13.3 Mounting of the sensor AFS 01 for control pan BigPan 330; MultiPan 330 and MalePan 330

The sensor AFS of these pans has to be placed in the inner cylinder as well. The control pan should be the penultimate pan before the drive. The sensor cable is guided to the drive along the Augermatic tube and is fixed with cable clamps.

For BP 330, MP 330 and Male Pan, the cable of the AFS sensor is guided through the boring atop the central cylinder, after folding down the feed pan. The cable has to be pulled through the boring until it reaches the sensor.

The sensor is placed into the central cylinder according to the below figure.

The control pan has to be assembled in such a way, that the boring for the sensor cable lies towards the drive (when seen from above).



10.13.4 Electrical connection of Augermatic and sensor

	Work on the electric components/structural groups may only be carried out according to electro-technical regulations (e.g. EN 60204, DIN VDE 0100/0113/0160). The farmer or owner further has to ensure that the electric systems and equipment are operated and maintained according to the electro-technical regulations. The electrical connection diagram is appended to the switch box of the AM drive and the sensor MS 45 R. A safety switch as an external fuse is not included in the AM drive but can be obtained as an option or bought by the customer.
---	--

10.13.5 Sensor MS-45R

Sensor MS 45R is a capacitive sensor for solid matters in the range of grain and feed.

Sensor MS 45R has an integrated relais switch as well as adjustable time delay and sensitivity.

An electrical terminal connecting plan is appended to every sensor.

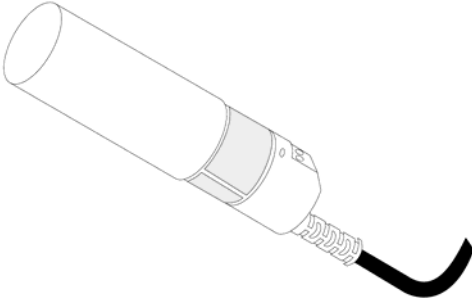
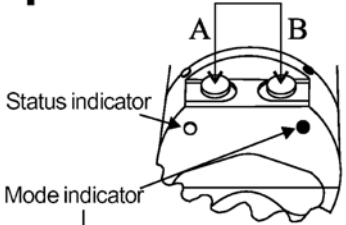
 Sensor MS45R	4 Activate both buttons for switching  Is activated individually for adjustment <table border="1" data-bbox="842 1512 1396 1809"> <thead> <tr> <th>Colour:</th> <th>Adjust:</th> <th>Press A</th> <th>Press B</th> </tr> </thead> <tbody> <tr> <td>Green</td> <td>Sensitivity</td> <td>—</td> <td>+</td> </tr> <tr> <td>Red</td> <td>Delay</td> <td>Min.</td> <td>Sec.</td> </tr> <tr> <td>Yellow</td> <td>Switch on/off</td> <td>Switch-on Flash </td> <td>Switch-off Constant </td> </tr> <tr> <td>Black</td> <td colspan="3">Adjustments completed</td> </tr> </tbody> </table>				Colour:	Adjust:	Press A	Press B	Green	Sensitivity	—	+	Red	Delay	Min.	Sec.	Yellow	Switch on/off	Switch-on Flash 	Switch-off Constant 	Black	Adjustments completed		
	Colour:	Adjust:	Press A	Press B																				
Green	Sensitivity	—	+																					
Red	Delay	Min.	Sec.																					
Yellow	Switch on/off	Switch-on Flash 	Switch-off Constant 																					
Black	Adjustments completed																							

Abb. 741.79

Functioning of sensor MS 45R

The motor of the AM drive is controlled by the sensor MS 45R through an adjustable time delay of 0-240.

When the feed reaches the sensor MS 45R in the control pan, the motor of AM drive is turned off automatically.

When the feed level drops and the sensor MS 45R is no longer touched by the feed, the motor of the AM drive is turned on again, after a certain time-delay.

As the feed level constantly changes because of the feed consumption of the animals, the spiral would have to be turned on and off frequently.

To avoid this, the sensor MS 45R is equipped with a time-delay mechanism.

The parameter that can now be worked on, is indicated by the colour of the LED.

colour:	parameter
green	sensitivity
red	time-delay
yellow	switch OFF / ON
black	set-up finished

Adjustment of the time-delay mechanism of sensor MS 45R

	Sensor MS 45R has an adjustable time-delay of 0-240 minutes.
---	--

The standard time-delay of sensor MS 45R, set by the manufacturer, is 30 seconds.

We recommend, NOT to shorten the set time-delay.

The duration of the time-delay can be activated by pushing and releasing buttons A and B (fig. 741.79) simultaneously. The mode indicator (fig.: 741.79) has to be red.

Each time button A is pushed, the time-delay is increased by 1 minute, each time button B is pushed, the time-delay is increased by 1 second.

Example: A time delay of 10min and 5 sec means, that button A has to be pushed 10 times and button B 5 times.

Adjustment of the sensitivity of sensor MS 45R

The sensor's distinct reactivity ensures that varying moistness of the feed changes the set-time.

For the adjustment, the feed should be as dry as possible. The drier the feed, the more secure the switching function of the sensor MS 45R.

The sensitivity can be activated by pushing and releasing buttons A and B (fig. 741.79) simultaneously. The mode indicator (fig.: 741.79) has to be green.

When pushing button A the sensitivity is decreased, when pushing button B it is increased.

If sensor MS 45R in the control pan does not interrupt the power supply of the AM drive, the sensitivity has to be increased.

If sensor MS 45R in the control pan does not react and the motor of the AM drive is not started, the sensitivity has to be decreased.



For more detailed information about handling of sensor MS 45R, please take a look at the documentation that comes with the sensor.

Reset to factory settings

To reset to manufacturers settings (30 seconds), buttons A and B have to be pushed simultaneously for at least 15 seconds.

10.13.6 Sensor AFS-01

The Sensor AFS 01 is a small capacitive sensor for detection of grain, feed and granulates. It is used for feed hoppers and feed pans. The sensor has been especially developed for the use in Augermatic-feeding systems.

The compact sensor AFS-01 is 82 mm long and 18 mm wide. All control electronics parts are cast-in in the plastic housing, thus, well protected against outside influences.

Operating principle

As soon as the sensor is no longer in contact with the feed in the feed pan, the sensor activates the AM drive after a time-delay of 60 seconds. The time-delay is preset at 60 seconds. This prevents that the drive is turned on and off too fast and for a too short time. As soon as the feed pan is filled with feed again, the sensor AFS deactivates the AM drive.

An integrated LED on the sensor shows the current status of the sensor.

Lamp indication	Description
Lamp OFF	Drive switched OFF
Lamp flashing	Drive switched OFF but delay is running.
Lamp ON	Drive switched ON

Assembly

The AFS-01 sensor is secured in the control pan. No further screwing works are necessary. The two-wire design of the feeder, assures a correct assembly.

11 Installing the suspension

The suspension material is required for raising the chain feeding when moving birds out and when the house is cleaned.

Suspension material consists of:

- a cable winch with fixing material
- pulley with fixing material
- cable with cable clamp
- suspension material for corner, feed trough, feed hopper and AM drive



When selecting the suspension material, take the carrying capacity of the support material and the permissible charges of cable winches and fixing material into account.

During planning or before start of assembly, evaluate the weights of the material to be suspended.

For the weight of the system components please refer to the manual of the system to be installed.

For the description of the assembly of the suspension system please refer to the manual M 1011 GB Suspension systems.

The fixing material for suspension is **not** comprised in the volume of delivery of the system but has to be provided by the customer or is available as an optional extra.

For standard calculation of the points of suspension ceiling height is assumed as 3 m and a distance of the suspension points of 3 m.

Pos.	Code No.	Description
1		AM drive
2		Feed hopper
3		End tube BP330
4		Tube AM7BP
5	99 50 0003	Ship chain galv 5mm DIN 766
6	99 50 0005	S hook 2" no 60/6x55
7	99 50 1077	Thimble 6mm for cable 5mm DIN 6899
8	99 50 0120	Cable clamp 5mm 3/16" galv
9	99 50 3700	Wire rope 5mm galv
10	00 00 3006	Pulley 4 1/8" 105mm plastic

Pos.	Code No.	Description
11	11 31 3581	Bracket for cable winch 340kg and hopper suspended AM/BP Feed hopper suspended AM/BP
12	99 50 3003	U bolt galv 8x25/W34/H48
13	99 20 1064	Self locking counter nut M 8 DIN 985 6 galv
14		Screw hook bent
15	00 00 0313	Pulley 1 7/8" 47,6mm
16	11 00 3002	Cable lock AM
17	11 00 0089	Hanger for tube BP/AM
18	99 50 0013	Wire rope 3mm galv
	99 50 1007	Suspension cord braided Perlon 6mm yellow

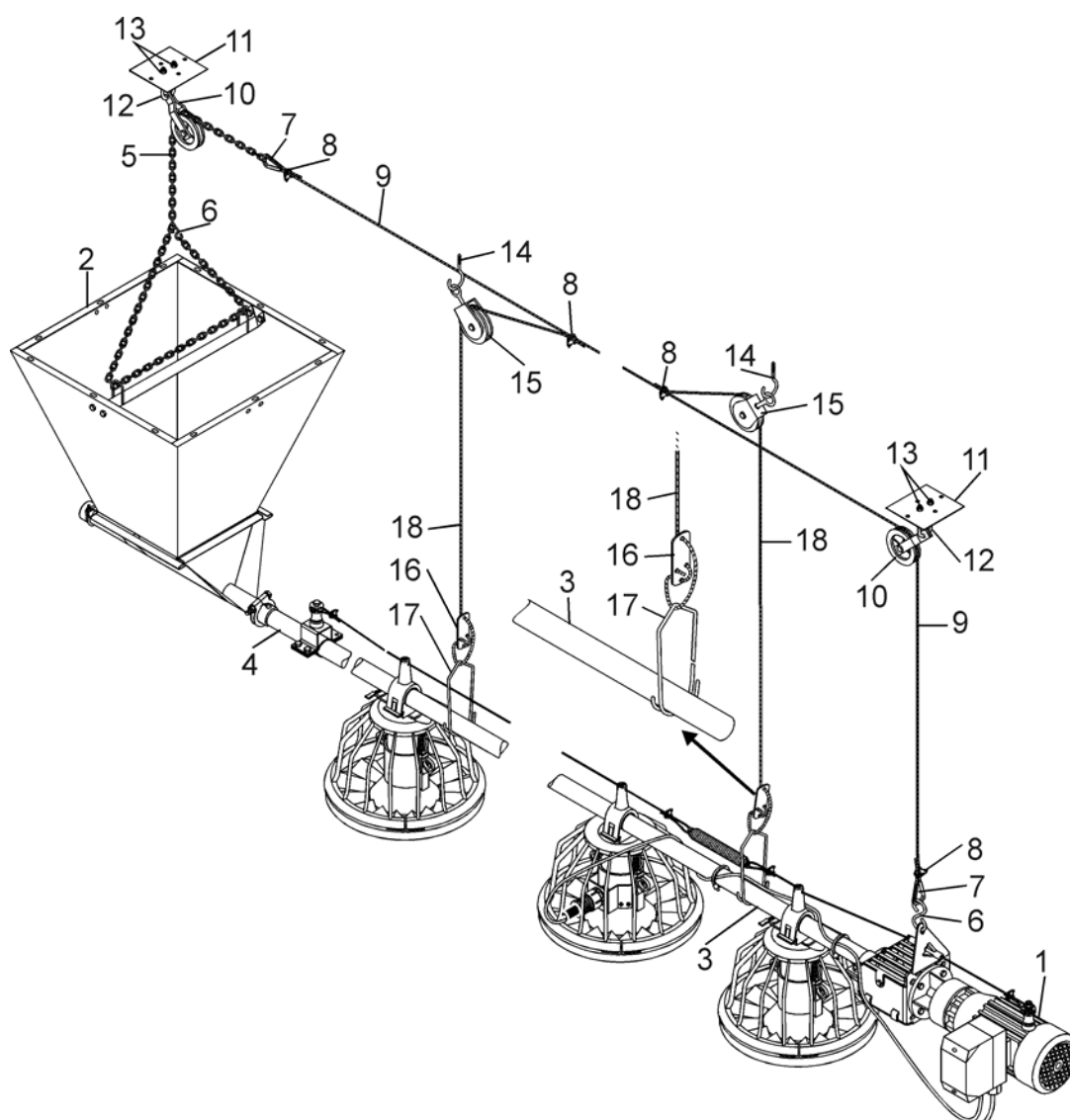


Fig. 741.80

12 Installing the cable winches

	Warning	Before starting to assemble, operate or maintain the cable winch, read the enclosed leaflet and consider the following safety instructions !
	Caution	After the assembly check all main traction ropes, particularly in the area of the roller tube. The farm personnel has to repeat this check after each grow-out.

High forces are created when using a winch, creating potential safety hazards. It should be operated and maintained in accordance with instructions.

Never allow children or anyone who is not familiar with the operation of the winch to use it.

Maintain a firm grip on the winch handle at all times, and never release the handle when ratchet lever is in unlocked position with a load on the winch. Otherwise, handle will spin violently, which could cause personal injury.

Check for proper ratchet operation on each use of the winch. Do not use if damaged. Seek immediate repairs.

Never pull on the winch handle against a locked ratchet.

Never exceed rated capacity. Excess load may cause premature failure and could result in serious personal injury.

Never apply load on winch with cable of rope fully extended. Keep at least three full turns of cable or rope on the reel.

Winches should not be operated with a motor of any kind.

13 Final inspection

	PLEASE CHECK THE ENTIRE SYSTEM BY MEANS OF THIS CHECKLIST AT THE BEGINNING AND AT THE END OF EACH REARING OR PRODUCTION PERIOD. TICK EACH POSITION YOU CHECKED.
---	---

13.1 Conveying system for AUGERMATIC

- ☐ Align the entire feed circuit with the cable locks of the individual suspension ropes which ensures an absolutely straight chain operation over the entire circuit length.
- ☐ Make sure that the AM feed hopper and the AM drive are in line with the tubes.

13.2 Feed pan

- ☐ Check the slide shut-offs and open them if required.
- ☐ Check whether the sensor in the control pan is correctly installed and operating.
- ☐ Adjust the cylinders for adjusting the feed level to the same position in **all** feed pans.

The feed level generally has to be kept as low as possible during the entire period of restricted feeding.

13.3 Anti-roost device

- ☐ Check its operation in general.
- ☐ In case of functional disorders check the possibility of an electrical short-cut between the anti-roost wire and the feed channel and remove it.

14 Operating instructions

14.1 Putting AUGERMATIC into operation

- Check whether the AM tubes are running exactly horizontally and the drive is correctly connected with the power supply.
- Put the system into operation for a short time to be able to find out possible installation errors. Pay attention to the right direction of the transport auger.
- Let the transport auger run approx. 15-20 minutes without feed, so that burrs which possibly stick to the auger or to the outlet of the tubes are removed and the system is able to work smoothly. This causes noise but that is absolutely normal.
- All burrs and dirtyings must be removed out of the tubes. If not keep a check upon heated points on the tubes.
- Now remove all dirtyings out of the feed pans.
- The new tubes and the auger are covered with a thin layer of oil. This oil film will cause a certain friction when feed is conveyed for the first time.
- First fill small amounts of feed into the feed hopper until the first feed pans are filled.
- Continue filling in small steps until the entire system has been filled.

14.2 AUGERMATIC – feeding system „Male - Pan“ and „Male – Pan plus“ for broiler breeder males

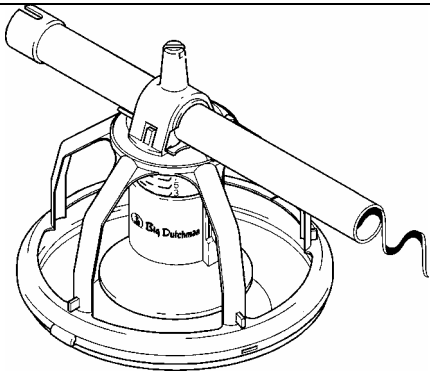
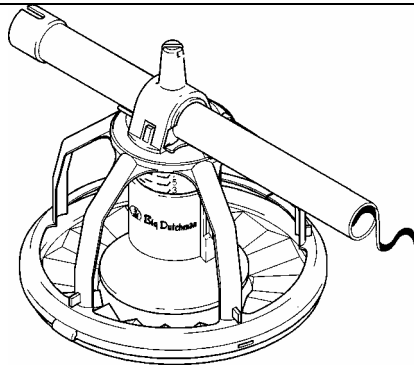
	
Male-Pan, Code No. 11 31 3585	Male-Pan plus, Code No. 11 31 3590

Fig. 741.81

14.2.1 Description of Male-Pan and Male-Pan plus

- Fixed, non-swinging tube connection by means of a pressure spring and a holding pin.
- Slide shut-off for uniform distribution of the total restricted feed quantity to all males within the flock with decreasing number of birds (mortality/selection).
- Stable 5-arm grill.
- Deep feed plate to prevent feed losses and for complete reception of the required daily ration for all males.
- Scale for precise and easy volume adjustment of all feed pans on a feeder line.

14.2.2 Introduction

In broiler breeder houses, separate-sex-feeding still has a very high, production-technical status.

This is important,

- to give a **relatively small feed quantity** to the males in comparison to the hens,
- to control the males' sexual development,
- and to avoid an uncontrolled increase in weight as well as premature obesity.

On the other hand, a **feed recipe deviating** from that of the hens shall also be offered in individual cases.

Separate male-female feeding ("separate-sex-feeding") can be put into practice as follows:

- The males must be denied access to the feed of the females by means of a relatively narrow eating grille.
- At the same time, a feeding place has to be offered to the males which cannot be reached by the smaller hens due to its raised position.

Since the males are fed extremely restrictively as are the females, such a male feeding system has to fulfil special requirements in order to give each male its exact daily ration.

Here, we distinguish different feeding procedures,

- according to the kind of quantity fixing
- and even distribution of the feed to the males.

14.2.3 Distribution of the daily ration by daily lowering of the filled „Male-Pan“ at feeding times

Here, we have the possibility to fix the daily ration per male

- only by the volume adjusted at the outer cylinder of the „Male-Pan“,
- or to weigh the feed into the feed hopper additionally for a more exact fixing of the feed quantity.

14.2.3.1 Advantages of „Male-Pan“

- The even distribution of the feed ration is possible independently of the conveying lengths and up to 150 m away from the house gable.
- Every male obtains exactly the same volume/quantity of feed.
- Thanks to the mostly raised male feeding line, the birds have more place in the scratching area. Through this, the insemination rate is improved. The danger of misplaced eggs under the male pan is minimised.
- 7 to 9 males per feed pan.

14.2.3.2 Technical details of the Male-Pan feed pan

(daily lowering of the filled „Male-Pan“ at feeding times)

1. Possible grid positions of the „Male-Pan“ and the corresponding feed quantities

Grid position at the outer cylinder	[]	1	2	3	4	5	6	7	8	9	10	11	12
Feed volume	(cm ³)	1111	1162	1254	1384	1535	1703	1885	2078	2284	2502	2731	2973
Spec. density	(g/cm ³)	-----0.65-----											
Feed quantity	(g)	722	755	815	899	998	1107	1225	1351	1485	1626	1775	1932
= for 7 males	(g/bird)	103.1	107.9	116.4	128.5	142.5	158.1	175.0	193.0	212.1	232.3	253.6	276.0
= for 8 males	(g/bird)	90.2	94.4	101.8	112.4	124.7	138.4	153.1	168.9	185.6	203.3	221.9	241.5
= for 9 males	(g/bird)	80.2	83.9	90.5	99.9	110.9	123.0	136.1	150.1	165.0	180.7	197.3	214.7

The calculated feed quantities should only be regarded as reference value.

Since the flowability of the feed in the pan also depends on the surface structure and a lot of other factors - apart from the specific density, the humidity and fat contents - it is absolutely necessary to measure the feed quantities with the respective sort of feed used.

14.2.3.3 Feeding process in principle upon volume metering

1. The feed line is suspended inaccessible for the males.
2. The feed hopper of the Augermatic is continually kept filled by an auger or a „Flex-Vey“ conveying spiral. The daily ration is **not** weighed in.
3. The Augermatic conveying auger is switched on. The Male-Pan feed pans are filled from the front (feed hopper) to the back (drive unit). The quantity of feed depends on the height adjusted at the outer cylinder and the adjusted feed volume.
4. The maximum sensor of the last but one feed pan automatically switches off the Augermatic conveying auger.
5. The Augermatic conveying auger is switched currentless and is lowered automatically or manually to bird level for feeding. In this lowered position, there is generally **no** refill of the Male-Pans.
6. After that, the system is raised again and filled for the next day.

14.2.4 Distribution of the daily ration during the eating time - without daily lowering of the Male-Pan Plus feed pans

The complete daily ration for the males is distributed during the feeding and eating time; it is not necessary to lift or lower the feed pans in a daily change.

In order to guarantee an even distribution of the feed quantity to all birds, the following techniques of Male-Pan plus are described.

- A minimum sensor in the feed hopper keeps the Augermatic conveying auger between two feed pans filled so that feed will be available in all feed pans immediately after having switched on the drive unit.
- The conveying capacity of the Augermatic is increased by means of a special drive unit with 703 RPM to more than 1 t/h.
- The installed volume reducing insert reduces the feed quantity in the pan; through this, the pans are quickly refilled after beginning of feeding.
- The basin-shaped feed pan realises an extremely low feed level. Through this, the eating speed of all birds is adjusted to a low level.

14.2.4.1 Technical details of the Male-Pan plus feed pan

(distribution during the eating time - without daily lowering of the feed pans)

Feeding process in principle:

1. The complete daily ration for the males of this feeding line is **weighed into** the feed hopper.
2. The Augermatic conveying auger is switched on for feeding. The Male-Pan plus feed pans are **all filled simultaneously** with the feed quantity located in the conveying tube between two feed pans.
3. The maximum sensor of the last but one feed pan controls the Augermatic conveying auger according to the actual eating performance of the birds.
4. The minimum sensor at the bottom of the feed hopper of the Augermatic switches off feeding. In this way, the conveying tube is still filled with feed and is therefore prepared for the next day.

14.2.4.2 Advantages of Male-Pan plus

- The feed pans do not need to be raised and lowered every day.
- Every male obtains exactly the same quantity of feed.
- A low feed level in the basin-shaped feed dish reduces feed losses.
- 7 to 8 males per feed pan.

14.2.4.3 Feeding process in principle upon weight metering

1. The feeding line is raised inaccessible for the males.
2. The complete daily ration of the males in this feeding line is **weighed into** the feed hopper.
3. The Augermatic conveying auger is switched on. The Male-Pan feed pans are filled from the front (feed hopper) to the back (drive unit).
4. The minimum sensor at the bottom of the feed hopper of the Augermatic switches the Augermatic conveying auger off when the complete, weighed-in quantity has been distributed.
5. If the maximum sensor of the last but one feed pan switches off before, the height adjustment at the outer cylinder of **all** feed pans has to be modified so that the complete daily ration can be taken up.
6. Only a very small, from day to day same rest quantity of feed should remain in the feed hopper.
7. The Augermatic conveying auger is switched currentless and is lowered automatically or manually to bird level for feeding. In this lowered position, there is generally **no** refill of the Male-Pans.
8. After that, the system is raised again and filled for the next day.

15 Troubles and their remedies

Trouble	Reason	Remedy
Hooked bolt M 6x35 broken.	Foreign matter in the tube outlet.	Tap the tube until you find the place where it is empty. Look for foreign matter. Reduce auger tension. Turn back auger at the motor. Remove foreign matter.
	Jam in the auger. Jam. Congestion.	Localise place where the tube is empty or warm. Disassemble the tube at this place and remove jam.
	Auger broken.	Disassemble auger and repair it.
Warm place in tube or cor-rosion in tube.	Kink in auger.	Remove approx. 3 m of auger and insert a new piece by welding. See chapter: Welding the auger.
	Jam in auger.	Localise place where the tube is empty or warm. Disassemble the tube at this place and remove jam.
	Auger welded wrongly.	Disassemble auger and correct weld joint. If required, cut the auger, remove bent piece and weld anew.

Trouble	Reason	Remedy
The entire Augermatic system does not start.	No or too low supply voltage.	Damaged fuse, replace fuse. Check whether thermal protection is correctly adjusted. Normally, the thermal protection switches off the motor in case of too high intensity of current. Check electric mains to the house for correct tension.
	Sensor does not switch.	Control fuse in switch box faulty.
	Time switch or time switch motor faulty.	Replace damaged time switch or motor of time switch.
	Delicacy of sensor is too high.	Reduce delicacy.
Protective motor switch regularly switches off the motor (motor overloaded).	Oil film on auger and inside of tube causes increased charge on motor upon first putting into operation of Augermatic.	Remove oil film from auger. Fill the system with so much feed that all feed pans are filled.
	Insufficient power supply to motor.	Check clamped tension at motor and compare with rating plate. Too small cross section of connecting cable. Check whether the motor 380 V has to be connected to 3 phases, but is only supplied by 2 phases.
	Foreign matter in auger. Motor starts, than stands still and the auger moves in the opposite direction.	Check feed hopper, control pan and feed drops in the tubes for foreign matter. Remove foreign matter.

Trouble	Reason	Remedy
Auger operates irregularly.	Bearing of tension shaft is stuck or damaged.	Replace bearing. See chap.: Installing the auger.
	Insufficient auger tension.	Shorten auger. See chap.: Installing the auger.
	Foreign matter in auger.	Remove foreign matter.
	Too strong tension on auger. Auger is detached from tension shaft.	Lengthen auger at feed hopper. Check whether the tension shaft is fixed correctly.
Bearing of tension shaft is stuck.	Cleaning water in the lower part of the feed hopper.	Remove water.
Excessive wear at tube and at the lower part of the feed hopper (unusual noise from Augermatic).	Auger bent at wear point.	Replace respective piece of tube and of auger. See chap.: Installing the auger.
	Auger „climbs up“ at the AM drive.	Auger too long. Check auger for bends and shorten it.
Tube kink at the tube outlet holes.	Outlet holes not correctly made.	Replace tube.
Augermatic does not switch off.	No feed in feed hopper.	Check supply system and remove possible mistakes.
	Auger broken.	Repair auger. See chap.: Installing the auger.
	Delicacy of sensor in the control pan is not sufficient.	Enlarge delicacy of sensor. See chap.: Installing the auger.
Auger causes an excessive noise.	No feed in feed hopper.	Fill silo or repair supply system.

Trouble	Reason	Remedy
Auger causes an excessive noise.	Auger broken.	Repair auger. See chap.: Installing the auger.
Not enough feed in feed hopper.	Feed jam in silo. Silo empty.	Fill silo. Install protective switch (sensor) in the silo funnel, so that feed supply is switched off as soon as the silo is empty.
	Check adjustment of feed level switch (sensor) in the last feed hopper.	Install sensor anew.

16 List of spare parts

For ordering spare parts please use the code numbers or position numbers of the respective component parts listed in the individual sections of the assembly.

Space for notes: